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ABSTRACT

A study sought to determine the extent to which local accountability systems exist in vocational education and to describe the nature of the underlying relationships between such programs and their constituents. Data were collected through interviews from two local vocational education programs in each of five states (California, Florida, Michigan, Ohio, and Oklahoma) and their state departments of education. Four major conclusions were reached: (1) there is widespread evidence of functioning local accountability systems in vocational programs; (2) these systems can be described in terms of goals, measures, information feedback loops, and change mechanisms and the relationships between those components; (3) the quality of these components and the relationships between them account for much of the variation in local accountability systems and limitations in the components interfere with the overall effectiveness of the accountability system; and (4) many practical constraints that reduce the effectiveness of the components in local systems can be identified. Examples of the practical constraints included: (1) goals that were ineffective because they were so broad or vague that it was difficult to know when they were achieved, goals that were not supported by relevant constituencies, and no stated priorities among goals; (2) measures that were ineffective because they were not consonant with or sufficient to encompass goals, of adequate technical quality, or not meaningful tc constituents; and (3) feedback that is deficient because of insufficient communication, inaccurate communication, or a high rate of communication with very little useful content. (CML)

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Local Accountability in Vocational Education: A Theoretical Model and Its Limitations in Practice

Brian M. Stecher, Lawrence M. Hanser

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PREFACE

How can we best foster accountability in vocational education? What is the nature of existing accountability relationships? Concern about the productivity of the U.S. workforce and the competitiveness of the U.S. economy heightens the importance of these questions. Recent reports from the U.S. Department of Labor and the National Educational Goals Panel focused public attention on the performance of the vocational training system. Legislators at state and federal levels are formulating policies aimed at improving vocational education through increased accountability. These policies will be better informed if they are based on thorough knowledge of existing accountability systems.

Yet we know very little about accountability in vocational programs. At the local level, schools and programs have long-standing relationships with constituents through which their performance is measured and judged. These local accountability systems, although often informal, have many of the same elements that are being incorporated into formal regulations. However, there is no clear picture of the functioning of such local accountability systems.

This study was designed to analyze and describe local accountability systems in vocational education. Such a description can serve as a basis for further study of vocational programs, for developing criteria for evaluating accountability systems, and for monitoring the impact of policy changes. As such, this Note should be of interest to state and local education administrators, state and federal policymakers, and policy researchers interested in vocational education.

The present Note describes a model for local accountability in vocational education and explores shortcomings in accountability systems. A subsequent report will consider the demands that federal legislation places on states and localities and will propose policy alternatives for responding to these demands that are sensitive to local accountability concerns. RAND research on vocational education is conducted within the National Center for Research in Vocational Education, sponsored by the Office of Vocational and Adult Education, U.S. Department of Education.

SUMMARY

Accountability refers to the practice of holding educational systems responsible for the quality of their products. Most formal policy initiatives in this area focus on highly aggregated accountability at the state or federal level, but it is also possible to define accountability systems in local terms. The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 attempts to promote both state and local accountability, placing with states the final responsibility for establishing measures and standards and for ultimate program supervision after placing initial responsibility at the local level for program evaluation and improvement.

To understand the impact of this model of accountability, it is important to know how vocational programs presently function with respect to their multiple constituencies. The purpose of this study is to determine the extent to which local accountability systems exist in vocational education and to describe the nature of the underlying relationships between such programs and their constituents. To explore local accountability, we visited secondary and postsecondary vocational programs in five states: California, Florida, Michigan, Ohio, and Oklahoma. We gathered documentary information about programs, and we interviewed students, parents, instructors, employers, and administrators. In addition, we interviewed staff at the state departments of education. The interviews focused on the relationships between the programs and their local constituents.

Four major conclusions emerged from our investigations. First, there is widespread evidence of functioning local accountability systems in vocational programs. Second, these accountability systems can be described in terms of four elements—goals, measures, information feedback loops, and change mechanisms—and the relationships between them. A simple model based on these elements does a reasonable job of describing accountability relationships across a wide range of vocational programs. Third, the quality of these components and the relationships between them account for much of the variation in local accountability systems. Limitations in these components interfere with the overall effectiveness of the accountability system. Fourth, we can identify many practical constraints that reduce the effectiveness of the components in a local accountability system. This may provide a basis for developing criteria to evaluate local accountability systems and prescriptions for improving them.

These constraints and limitations can be described as deficiencies in the components of the model and the interactions among them. Specifically, goals were ineffective when

- Higher-level goals were not supported by interlocking goals at the action (local) level;
- Goals were sufficiently broad or vague that it was impossible to know when or if they had been achieved;
- Relevant constituencies did not understand and/or support the goals; and
- There were unstated or unclear priorities among goals.

The chief role that measures play in accountability is to provide evidence of the attainment of goals, and the most important measures are those that are goal-related. Measures were ineffective when they were

- Not consonant with or sufficient to encompass goals;
- Of inadequate technical quality; or
- Not meaningful to constituents.

Feedback includes the flow of information conveyed by the measures to administrators, program staff, and school system constituents, as well as the flow of information among administrators and staff. Potential deficiencies in feedback include

- Insufficient communication;
- Inaccurate communication; and
- Low signal-to-noise ratio—a high rate of communication with very little useful content.

Ultimately, accountability systems lead to organizational change. Organizational reform mechanisms can falter for many reasons, including

- Regulations that limit options for change;
- Insufficient resources;
- Overattention to the needs of one constituency (e.g., employer groups);
- Giving priority to short-term demands over long-term trends;
- Difficulties balancing competing goals and principles (e.g., equity vs. placement);
- Lack of formal procedures for change; and
- Ineffective leadership for reform.

Greater experience with this model of local accountability will improve its usefulness as an analytic tool. For example, the model can serve as a basis for monitoring the effects of state and federal initiatives, such as the 1990 amendments to the Carl D. Perkins Act. A subsequent report based on this study will explore such policy applications.

ACKNOWLEDGMENTS

This work was based on interviews with vocational educators, vocational education students, and employers in California, Florida, Michigan, Ohio, and Oklahoma. We wish to thank the state vocational program directors who assisted us in our efforts and all of the state-level staff who helped arrange our visits. We also want to thank the superintendents, principals, program staff, instructors, students, parents, and employers in each of the sites we visited for responding patiently and candidly to our barrage of questions. Our promise of anonymity precludes our mentioning them by name, but we hope they realize how important their cooperation was and how much this work relied on their input. We also want to acknowledge the helpful comments and suggestions offered by Randy Ross, our colleague at RAND, and the efficient text processing support provided by Donna White.

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1. INTRODUCTION

BACKGROUND

Over the past several years concern has grown about the competitiveness of the U.S. workforce and the efficacy of the U.S. education systems to develop and maintain a skilled labor pool. This concern is widespread. According to a recent General Accounting Office (GAO) report, "[A]s skill levels are increasing, employers are finding that many young workers are inadequately prepared for many entry-level as well as most higher-skilled jobs."[1] Concern about workforce competitiveness is echoed in the administration's school reform proposals as well; two of the six national goals proposed by the administration are directly related to workforce productivity.[2]

One of the primary ways in which policymakers have addressed this concern is with an increasing emphasis on educational accountability. For example, a major theme of the Bush administration's proposal, *America 2000*, is "creating better and more accountable schools for today's students."[3] Never before have so many diverse groups focused their attention on questions of standards and measures of school performance as one means to hold schools accountable. Under the umbrella of the administration's initiative to achieve six national goals for education, politicians, business people, parents, child welfare advocates, educators, and researchers have begun to discuss proposals for establishing national educational standards and for developing national tests to assess students' performance relative to these standards.[4] The intent of these proposals is to create a new framework that can be used to monitor the progress of students and to hold schools and school districts accountable.

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[1]General Accounting Office, *Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries*, GAO/HRD-90-88, Washington, D.C., May 1990.

[2]These two goals are as follows: (1) "American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy." And (2) "Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship." The White House, *America 2000: The President's Education Strategy*, Washington, D.C., April 1991.

[3]The White House, 1991. For a wide range of comments on this proposal, see The William T. Grant Foundation Commission of Work, Family, and Citizenship and the Institute for Educational Leadership, *Voices from the Field: 30 Expert Opinions on "America 2000," The Bush Administration Strategy to "Reinvent" America's Schools*, Washington, D.C., 1991.

[4]For example, see The National Council on Education Standards and Testing, *Raising Standards for American Education*, Washington, D.C., January 1992; W. Johnston and A. Packer, *Workforce 2000: Work and Workers for the Twenty-first Century*, Hudson Institute, Indianapolis, IN, June 1987; Science, Education, and Transportation Program, Office of Technology Assessment,

As concern about workforce competitiveness grows, local systems of vocational education are receiving greater attention. Within the educational system, vocational educators have been among the most concerned about students' preparation for work and the impact of education on productivity and competitiveness.

Some might argue that vocational educators have been leading the debate about performance-based accountability as well. One reason may be that vocational education, by its nature, is more "accountable" than nonvocational education. This is because vocational programs have specific outcomes that are conceptually easier to monitor—preparing students for jobs—and have clearly identifiable constituents—employers—who participate in the monitoring function. Vocational education programs have had informal accountability systems built around job training and placement for years.

In addition, federal vocational education and training program initiatives have included formal accountability mechanisms. For example, the federal Job Training Partnership Act tied resources for training directly to job placement and retention through the vehicle of performance contracting. Similarly, the 1990 re-authorization of the federal vocational education act[5] explicitly mandated that states establish standards and measures for program performance and the use of these measures to target efforts at program improvement.

The Perkins Act and the reforms it promotes embody concerns about both competitiveness and accountability. The act has as its intent "to make the United States more competitive in the world economy by developing more fully the academic and occupational skills of all segments of the population."[6] Accountability is one of the vehicles to be used to accomplish these goals. The Perkins Act requires the development of state and local standards and measures, state assessments, and procedures for program evaluation and improvement.[7] These assessment and improvement mandates apply to local districts and to states, with most of the final responsibility resting at the state level. It is unclear how these requirements will be translated into action or how they will affect ongoing formal or informal accountability systems at the local level.

This project focuses on the juncture of local and state accountability in vocational education. Specifically, we are interested in understanding local accountability systems in

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Performance Standards for Secondary School Vocational Education, Washington, D.C., April 1989; "One Nation, One Curriculum?" *Newsweek*, April 6, 1992, pp. 59–60.

[5]The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 (Public Law 101-392).

[6]Ibid., Section 2.

[7]Ibid., Sections 115, 116, and 117.

vocational education, the way they operate, and the data that support them. We also are interested in the limitations inherent in existing local systems and the effects of federally mandated accountability requirements on these systems.

The present Note looks at accountability at the local level; a future report will explore the conjunction of local and state/federal initiatives. The reason we begin at the local level is that it is at this level that a competitive workforce is either achieved or not. It is at this level that programs are initiated, continued, and canceled; that students enroll, continue, drop out, or complete; that skills are learned; and that hiring occurs and workers succeed or fail. It is only with data from the local level that we can judge the success of our system of vocational education, and ultimately it is at this level that federal and state policies either advance or hinder the competitiveness of America's workforce.

SITE VISITS

To examine local accountability in greater detail, we visited vocational education programs in five states: California, Florida, Michigan, Ohio, and Oklahoma. The selection was based on geographic diversity and the presence of one or more strong accountability-related factors, such as a statewide occupational competency system, a set of performance standards, or innovative occupational assessment tools.

Initial contacts were made with the office responsible for vocational education within each State Department of Education. We spoke with program staff who were familiar with the state's efforts in vocational education assessment and program monitoring and/or accountability, and we collected related documents.

Based on recommendations from the state's Office of Vocational Education and from other RAND and National Center for Research in Vocational Education (NCRVE) researchers familiar with activities in the state, we arranged to visit at least two local service providers. Depending upon the organization of the state's vocational education system, these providers were area vocational technical schools, joint vocational school districts, comprehensive high schools, vocational high schools, and/or community colleges.

At each site we interviewed administrators (e.g., the superintendent, principal, vocational coordinator, and program coordinator), instructors, students, employers, and, occasionally, parents. We spoke with approximately 20 people individually or in small groups. We also collected documents describing the school's goals, programs, assessments, and accomplishments.

These interviews and documents permitted us to test and refine our ideas about local accountability. The insights we gained from these conversations are reflected in the

discussions that follow: we draw upon them for general formulations as well as for specific examples.

OVERVIEW OF THE NOTE

This Note is divided into five sections. Section 2 provides a brief discussion of the nature of accountability in educational systems and describes a conceptual framework for accountability in vocational education at the local level. Section 3 presents a detailed composite description of a local accountability system that one might find in operation in vocational programs around the country. Section 4 discusses the limitations in practice that effectively prevent local accountability systems from mirroring our conceptual model. Section 5 presents a summary of our interim results and conclusions.

2. THE NATURE OF ACCOUNTABILITY IN EDUCATION

Accountability in education refers to the practice of holding educational systems responsible for the quality of their products—students' knowledge, skills, behaviors, and attitudes. Accountability is neither a new idea nor a new practice in education. Kirst[1] provides a brief history of its origins, tracing the use of the concept in education to the "payment by results" system found in 19th century England. With this system, schools were paid according to the performance of their students on standardized exams.

A "payment by results" system has an internal mechanism that works to optimize performance. In its purest form, when teachers are paid directly by their students to achieve a particular result (e.g., piano skills, SAT scores, ballet virtuosity), the process operates in the following manner. If a teacher cannot satisfy students—because he or she either is not a good teacher or is teaching the wrong subject matter—the teacher fails to make a living and leaves the system. As a result, only those teachers who teach the desired subject matter to the satisfaction of their students remain, and the overall quality of the system is improved. This is a simple illustration of the mechanism by which an accountability system works to optimize performance.

In the United States, educational accountability has roots in "cost accounting," a process for quantifying learning outcomes and attaching costs to them. For example, just as a factory can have an objective production goal for manufacturing automobiles, a school can have objective "production" goals for education. Similarly, as one can determine the cost of producing an automobile, so one could determine the cost of "producing" a trained graduate.[2] With this information, it would be possible to compare the output efficiency among school systems or among the schools within a system. As we have come to apply it in education today, accountability reflects this much more complex notion.

A formal definition of accountability can be found in recent RAND work:[3]

> Accountability describes a relationship between two parties in which four conditions apply: first, one party expects the other to perform a service or accomplish a goal; second, the party performing the activity accepts the legitimacy of the other's expectation; third, the party performing the activity

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[1]M. W. Kirst, *Accountability: Implications for State and Local Policymakers*, Office of Educational Research and Improvement, U.S. Department of Education, Washington, D.C., July 1990.

[2]Ibid.

[3]P. T. Hill and J. J. Bonan, *Decentralization and Accountability in Public Education*, R-4066-MCF/IET, RAND, Santa Monica, 1991, p. 35.

> derives some benefits from the relationship; and fourth, the party for whom the activity is performed has some capacity to affect the other's benefits.

This is a generic definition of accountability that can be applied at many levels. For example, the "parties" in an accountability relationship could be state and federal agencies, school districts and state agencies, schools and school districts, schools and teachers, or teachers and students. Educational systems have a large number of constituents, ranging from students, parents, and local community members to state administrators, child welfare agents, and federal policymakers, each with a specific interest in the success of the system. Each stands in some type of accountability relationship with schools. Which of these relationships have the greatest impact on education? Traditional policymaking focuses at the state level, but we will argue that local accountability networks deserve greater attention, especially in the field of vocational education.

A CONCEPTUAL MODEL OF LOCAL ACCOUNTABILITY IN EDUCATION

Levin[4] described an idealized educational accountability system as a dynamic, self-contained set of perceptions and responses:

> An accountability system is a closed loop reflecting a chain of responses to perceived needs or demands; an activity or set of activities that emerges to fill those demands; outcomes that result from those activities; and feedback on outcomes to the source of the demands. The feedback may generate new demands or a regeneration of the old ones; in either case, the previous set of activities may be modified or remain intact; a new or altered set of activities may be modified or remain intact; a new or altered set of outcomes may be produced; and the loop is completed again with feedback to the source of the demands (p. 375).

Using Levin as a starting point, we elaborated a model for a local accountability system for vocational education that has four major components:

1. Goals (e.g., 90 percent of high school students will graduate);
2. Measures—means for assessing progress toward the goals (e.g., cost accounting, comprehensive record keeping);
3. A feedback loop—to provide assessment information and constituent input back to the system; and

[4]H. M. Levin, "A Conceptual Framework for Accountability in Education," *School Review* 82(3), May 1974, pp. 363–391.

4. A systemic change mechanism—for reacting to feedback by changing the system, as appropriate.

We will argue that an effective accountability system must include each of these components in a viable form.

Figure 2.1 presents a diagram of our conceptual model of a local accountability system. It reflects both the theoretical perspectives presented above and the input we received from interviews with local constituents. Federal and state agencies are represented as external to the accountability system; that is, the parties in a local accountability system are the local school system and its immediate constituents (students, parents, and local business interests). This conceptual model provides a basis for examining accountability relationships in vocational education programs. To understand local accountability according to the model,

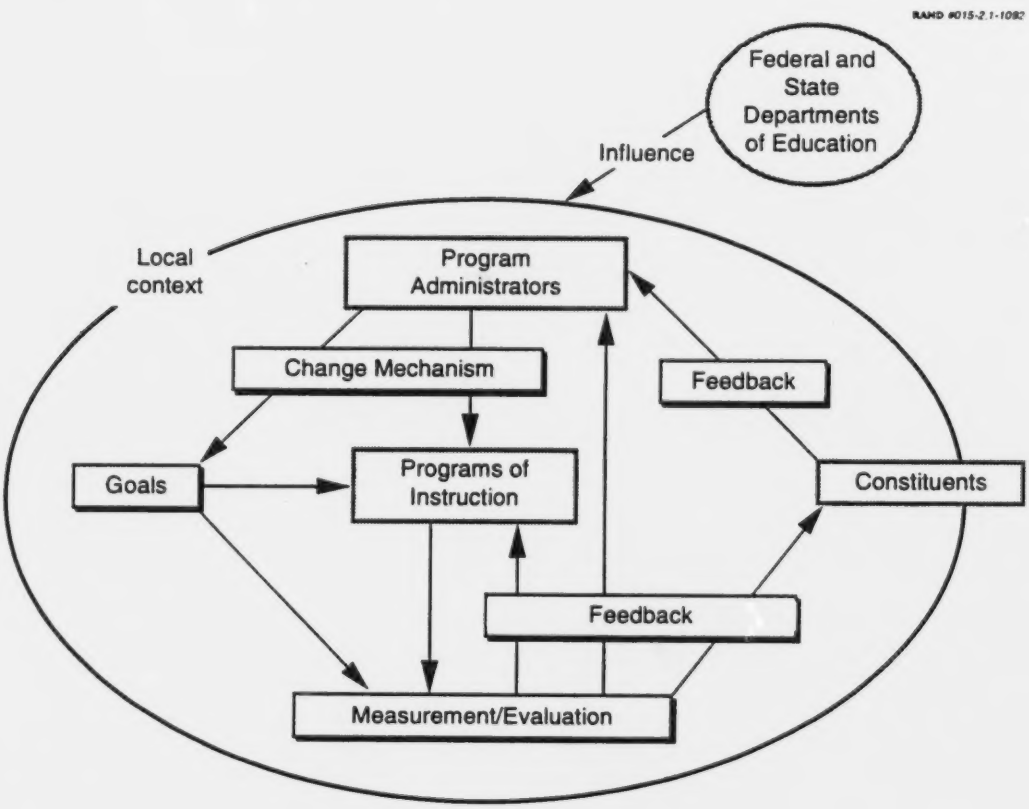

Figure 2.1—A Conceptual Model of Accountability

one must understand goals—how they are set, communicated, and changed; measures—how they relate to goals and how trustworthy they are; feedback loops—how information is exchanged and how constituents communicate their opinions and judgments; and change mechanisms—how the educational system reacts to feedback and how it acts to maximize goal attainment.

Both the individual components in the model and the interrelationships between components are far more complex than this simple language would suggest. For example, constituent feedback to the program includes not only comments but also actions. Students who are dissatisfied with their progress "vote with their feet" by opting to drop out before completing their program. Similarly, employers who are not satisfied with the quality of the school's output, i.e., the graduates they interview as prospective employees, refrain from calling the school for additional referrals. Both of these actions constitute feedback from constituents.

Although such feedback does not contain explicit information about the nature of program deficiencies, it constitutes a strong signal that deficiencies exist. Furthermore, a decline in student or employer participation ultimately has a negative effect on program funding (although the timing and precise mechanisms vary from state to state and locality to locality). Thus, this type of negative feedback leads directly to strong formal sanctions. In contrast, increased demand for classes or graduates leads to rewards in the form of program growth (within local funding constraints). These examples illustrate how rewards and sanctions are elements of constituent feedback.

There also are rewards and sanctions implicit in administrative feedback to constituents. Administrators who respond positively to input from constituents encourage further communication and nurture stronger collaborative relationships. In fact, administrators who react "correctly" to feedback by making appropriate program changes, but who do not respond encouragingly to constituents, may send unintended negative signals that suppress further communication. Nevertheless, the model provides a starting point for investigating accountability in specific programs and for thinking about the way such systems are affected by state and federal policy regarding performance and consequences.

LIMITATIONS OF STATE- AND FEDERAL-LEVEL ACCOUNTABILITY SYSTEMS

Most educational policymaking occurs at the state or federal level,[5] and, as a result, most formal accountability mechanisms focus on information that is highly aggregated. For

[5]See L. M. McDonnell and W. N. Grubb, *Education and Training for Work: The Policy Instruments and the Institutions*, R-4026-NCRVE/UCB, RAND, Santa Monica, 1991.

example, for many years the Secretary of Education published a "Wall Chart" that displayed state-level data on educational resources and attainments. Similarly, Congress authorized the National Assessment of Educational Progress (NAEP) to conduct trial state assessments in 1990 and 1992 to provide achievement comparisons at the state level.[6] Formal evaluations of large-scale, federal, categorical aid programs[7] (e.g., Title I, Title III, and Title VII) drew conclusions at the national level that became significant parts of the policy debate on reauthorizing these programs, just as the National Assessment of Vocational Education produced national results that affected the reauthorization of the federal vocational education programs.[8]

Similarly, most research on accountability is focused on the needs of state and national policymakers. For example, in a companion study conducted under the auspices of the NCRVE, Hill et al.[9] examine the information needs of national policymakers and the networks through which these needs are met.

However, there is a potentially serious problem in basing policy on accountability measured at highly aggregated levels. Mechanisms that appear to support policymaking at state and national levels may result in policies that are inappropriate when implemented at the local level. A simple example of this would be policymaking based on statewide occupational demand data. State policies that require vocational schools to offer or to withdraw occupational training programs based on statewide occupational employment data may be insensitive to local variations in workforce needs. For example, shortages of medical support personnel such as nurses or respiratory technicians can be highly localized, so it is important to base decisions about program initiation or termination on conditions in specific areas rather than on average conditions statewide or nationwide.

Vocational education is particularly susceptible to ineffective, high-level policymaking because local conditions play such a large role in program planning and performance.

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[6]In fact, the sampling plan for the original National Assessment of Educational Progress was specifically designed to preclude reporting of results at the state or district level. See S. Messick, A. Beaton, F. Lord, *National Assessment of Educational Progress Reconsidered: A New Design for a New Era*, NAEP Report 83-1, National Assessment of Educational Progress, Educational Testing Service, March 1983.

[7]For example, P. Berman and M. W. McLaughlin, *Federal Programs Supporting Educational Change, Vol. VIII: Implementing and Sustaining Innovations*, R-1589/8-HEW, RAND, Santa Monica, 1978.

[8]J. G. Wirt, L. D. Muraskin, D. A. Goodwin, and R. H. Meyer, *Final Report, Volume I, Summary of Findings and Recommendations*, National Assessment of Vocational Education, U.S. Department of Education, Washington, D.C., July 1989.

[9]P. T. Hill, J. Harvey, and A. Praskac, *Pandora's Box: Accountability and Performance Standards in Vocational Education*, R-4271-NCRVE/UCB, RAND, Santa Monica, 1992.

Programs are planned with an eye toward local economic needs, and program performance is measured in terms of placements, which are found primarily in the local area.

Local business and industry representatives play a significant role in many aspects of vocational programs, giving each program a unique local profile. For example, local business and industry help industrial vocational programs define goals and determine curriculum. Employers serve as advisors to almost all occupational-specific training programs. In this capacity they help programs identify skill needs, target training, and provide direct links to employment. Furthermore, many vocational instructors have direct contact with employers on a regular basis. Instructors are required to maintain their occupational skills and to be aware of the evolving state of the art in their fields by spending time at local businesses. Instructors also interact with employers when they supervise students working in job settings as part of training programs.

Vocational programs are responsive to the business community because they depend on local business for placement. Employers review the output of vocational programs (in the form of potential new employees) and make judgments about its quality (in the form of hiring decisions). In all these ways local business and industry affect vocational education, and policymaking needs to be sensitive to these influences. We believe it is important to understand local accountability mechanisms and their relationship to more highly aggregated state policymaking.

A final reason to focus on local accountability systems is that such mechanisms are likely to lead to program improvement more easily than highly aggregated ones. As Levin[10] noted, an accountability system is more effective when linkages are tight and information is produced and shared freely. These conditions exist more often at the local level than at the state or federal level.

We conducted site visits to vocational programs in five states. These visits confirmed our initial impressions that local accountability systems exist, although they are often informal and unsystematic. Furthermore, the visits revealed a number of commonalities across sites.

In the following section we use the insights gained from our site visits to describe a local accountability network in a hypothetical vocational technical school. The purpose of this generic description is to illustrate the manner in which the abstract relationships from

[10]Levin, p. 375.

the model are acted out in a real setting. By fleshing out the model in this way, we both enliven the text and elaborate the relationships. This elaboration is useful in later sections when we attempt to describe some of the limitations of local accountability systems.

3. A GENERIC EXAMPLE OF LOCAL ACCOUNTABILITY IN VOCATIONAL EDUCATION: MIDAMERICA VOCATIONAL TECHNICAL SCHOOL

INTRODUCTION

Our purpose in describing a generic vocational technical school is to illustrate the elements of the local accountability model described in the previous section. Schools are extremely complex organizations, involving diverse sets of participants, functions, facilities, regulations, and beneficiaries. Of necessity, this description will omit much that is not essential for describing the accountability components and relationships of interest, i.e., the goals, measures, feedback loops, and change mechanisms at work in the setting.

MidAmerica Vocational Technical School (MAVTS or MidAmerica) is our own creation; to our knowledge there is no such school in the United States. We created MidAmerica to exemplify a "good" vocational technical school, one that serves its constituents well. MAVTS provides high-quality training programs for widely diverse students, and it appears to meet the needs of its constituents and the needs of the regional community for employment training. However, the school is not wholly imaginary; it represents a composite of programs, people, and practices we observed in vocational schools in the United States. Based on our observations, we are confident there are many institutions of equal or better quality in this country.

The success of MidAmerica can be traced to many factors: a dedicated staff, an informed and supportive community, a cooperative state vocational education department, and a well-grounded curriculum. However, the feature that links these factors together and keeps MidAmerica "on target" is a rich, multilevel, local accountability network. Accountability at MidAmerica is based on a collection of simple components widely present in vocational education programs at the secondary and postsecondary levels. The accountability system is not a rigid set of data elements, reports, and processes, but a diverse collection of measures and communication paths through which all of MidAmerica's local constituents—employers, community members, students, instructors, administrative staff—make their needs and opinions known and in response to which program staff act to improve the programs offered by the school and to be responsive to the needs of students and employers.

The description of the school will be divided into five parts: a one-paragraph "snapshot," and lengthier sections describing district-level features, school-level features, program-level features (including examples of two typical programs), and the relationship of

the school to state and local constituents. Following these discussions, we will describe the local accountability system as it functions at MidAmerica. This description will cover goals, measures, feedback loops, and mechanisms for organizational change.

SNAPSHOT

MidAmerica serves over 750 full- and part-time students; approximately one-half are high school students and one-half are adults. The school offers certificates of mastery in more than 30 occupational areas. All programs are competency-based and use the state occupational competency task lists as the basis for their curricula. Most programs are organized on an open-entry/open-exit basis. The school receives the bulk of its funding from local taxes but also receives substantial funding from the state and some funds from federal sources. Most of the buildings and facilities are over 30 years old, although many have been modernized as new programs were implemented. The Office of Vocational Education in the State Department of Education considers MidAmerica to be one of the better vocational technical schools in the state.

DISTRICT FEATURES

As with many schools, MidAmerica is part of a school district that includes a network of elementary, secondary, and vocational schools. In this section, we describe several salient features of the school district that have either a direct or indirect effect on local accountability.

Governance

MidAmerica is one of four area vocational technical schools operated by the Southwestern Regional Training District, a state educational entity that spans two counties. The district has the power to levy taxes to support secondary and adult vocational training. It also must comply with all state regulations governing secondary schools, including accreditation, licensing, and facilities.

The district is run by a Board of Education, elected by the citizens. The board sets policies for the four vocational schools under its jurisdiction. The board appoints a superintendent to supervise the operation of the district. The current superintendent, Dr. M. Blanhorn, has been in office for seven years. Dr. Blanhorn recommends the appointment of principals for each school. The superintendent, principals, and all school staff are employees of the Southwestern District.

Since taking the position of superintendent, Dr. Blanhorn has encouraged individual schools to be responsive to the needs of their local communities, and he has given each of the

four school principals moderately wide latitude to implement the policies of the board in ways that are appropriate to its local service area.

Mission

The mission of the Southwestern Regional Training District is contained in a formal statement, adopted initially by the board in 1985 and reviewed most recently in 1990. It commits the district to a number of specific purposes, including the following:

- Preparing students to find meaningful employment, with the potential for long-term careers;
- Creating a well-trained pool of potential workers that meets the current and future needs of the regional economy;
- Helping business and industry upgrade the skills of the existing workforce;
- Preparing students to obtain advanced occupational training in community colleges or other postsecondary training institutions; and
- Meeting the needs of special populations, such as students with disabilities, students who are re-entering the workforce after many years' absence, and students from minority population groups.

The district defines its mission in terms of service to students and the community. Furthermore, it does so in ways that usually are measurable—information can be gathered to determine whether the district is achieving these purposes. The mission statement is shared with all staff and students, and it is a prominent part of the district's institutional culture. Furthermore, each school is required to adopt a set of goals that are consistent with the district's mission, and these goals are generally understood as the key elements that define each school's purpose.

Funding

Approximately 60 percent of the operating costs of the district are raised by local *ad valorem* taxation. Taxing authority must be voted on by the citizens in the region every other year, and the district has received continuing community support. The state provides another 30 percent of the school's revenue in the form of program-based funding and special grants. Federal vocational education funds distributed by the state account for an additional 7 percent of the budget. The remainder of the annual revenue is made up of student fees, Job Training Partnership Act (JTPA) program funds, and miscellaneous sources of revenue.

Services to Schools

The district provides only limited administrative services for the schools, leaving most administrative functions in local hands. The centralized services include accounting, payroll, employee benefits administration, and legal support.

SCHOOL FEATURES

Although much of the external context within which the school operates is set by the district, it is at the school level that philosophies and mission statements are translated into action. It is also at this level where the basic information that feeds the accountability system is collected. In this subsection, we briefly discuss the characteristics of the school that directly or indirectly affect accountability.

Administration

The authority for operating the school resides with the principal, Dr. S. Monet. She is responsible for most school functions, including hiring and firing of staff, developing and administering the budget, and initiating and supervising programs. The superintendent intervenes only when he perceives there is a problem that is not being addressed adequately by the principal.

Goals

MidAmerica translates the district's mission statement into specific programmatic goals:

- To assess the needs of students for education in basic academic skills and to provide basic skills training as needed;
- To provide appropriate, relevant, up-to-date occupational training for students;
- To provide appropriate, short-term training to existing workers to upgrade their skills and meet the needs of a changing workplace;
- To use the expertise of local business and industry in program development;
- To help students find training-related jobs in the region;
- To meet the needs of local business and industry by improving the skills of the workforce; and
- To offer specialized training programs for students with special needs.

Funding

Although the bulk of MidAmerica's revenue comes from local taxes, the state provides approximately 30 percent of the school's total funding through the Office of Vocational Education (OVE) of the State Department of Education. The distribution of federal vocational education funds also is directed by OVE. State funding is provided on a per-program basis rather than a per-student basis; i.e., a fixed amount of funding is awarded to each authorized program with the intention that the program will serve at least 20 students. However, the funding level does not change if enrollment changes during the year. (Enrollment is one element that is considered in the state's program review, and continued low enrollment can lead to a cutoff in state funds. See below.)

Students

MAVTS has an enrollment of 760 full- and part-time students (divided approximately equally between adults and concurrently enrolled high school students). Approximately 25 percent of the high school students and 15 percent of the adults are members of minority population groups, and 5 percent of the adults are women re-entering the workplace after many years. In addition, MidAmerica has a special program for deaf students, which draws students from throughout the district. Currently, 18 hearing-impaired students receive special services under the auspices of this program.

Centralized Support Services

Most of the responsibility for instructional services is delegated to individual programs, but some common support services are provided centrally. These include outreach and recruitment, initial assessment and counseling, and the Learning Center.

Outreach and Recruitment. The school has an active program of outreach to local high schools and the community. In addition, staff produce printed brochures and radio public-service announcements at the school and use these to inform potential students of the programs that are offered. Once each year, staff members make presentations at each secondary school in the region as part of a "career evening" sponsored by a local business association.

Counseling and Initial Assessment. All prospective students receive an appointment with a career counselor. The counselor discusses the student's interests and reviews the opportunities available at the school. The counselor also arranges for the student to undergo an hour-long assessment of academic skills and vocational interests. This information is shared with students to help them make better choices and to alert them to special services that are available at the school, such as the Learning Center, which provides

instruction in basic skills. The counseling center staff also can arrange for a student to visit classes for a brief period to familiarize the student with career options in that field and to assist the student in choosing among training opportunities.

Learning Center. The Learning Center is a recent addition to MAVTS, created in response to the growing number of students entering the school with deficiencies in basic literacy or quantitative skills. The center provides specialized instruction in basic skills and coordinates the delivery of this instruction with the student's regular occupational program. Students who lack the basic skills necessary to complete their chosen program enroll in the program so long as they continue to work on basic skills in the Learning Center. The center teachers try to coordinate their instructional program with the occupational training the student is receiving.

Industry Education. In recent years MidAmerica has actively promoted its retraining capabilities. The Industry Education Office helps individual programs develop, organize, and administer short-term courses designed to meet the needs of local businesses for upgrading the skills of existing workers. Often these courses are held at the job site. The Industry Education Office makes all necessary arrangements so programs do not have to worry about facilities, scheduling, enrollment, or credits. Unless funding is provided by other governmental sources, such as JTPA, the tuition is set at a level that permits the school to cover its costs in offering the course.

PROGRAM FEATURES

Programs are the most important administrative units at MAVTS. Decisions regarding curriculum and instruction are made at the program level, and it is at the program level that the school has the greatest contact with students, parents, and local businesses. For example, feedback from businesses regarding the appropriateness of training content is received and acted upon primarily by programs. MAVTS has 10 departments that offer 34 different occupational training programs. For example, the graphic communications department offers programs in advertising art, offset printing, composition, and production art.

Organization and Scheduling

All full-time programs are offered on an open-entry/open-exit basis, and, as a result, instruction is highly individualized. Concurrently enrolled high school students attend for three hours per day and earn academic credit. Adult students can attend for either three or six hours per day. For unlicensed occupations, approximately 600 course hours are required to complete competencies and earn a certificate issued by the school. For licensed

occupations, such as cosmetology, state requirements for length of training apply, and students must pass a state examination to earn a license.

Short-term Industry Education courses are not open-entry/open-exit; they have a fixed length, but they operate on an *ad hoc* schedule. Course lengths are determined in advance based on the content to be covered.

Competency-Based Curriculum

All courses, both short-term and full-time, are competency-based. This means their curricula are divided into sequences of discrete elements, each consisting of knowledge to be learned and/or skills to be mastered. The state OVE supervised the development of skill lists for each occupation that are used as the basis for the curriculum. State skill lists are supplemented with additional skills suggested by local employers. Student progress can be monitored in terms of the number of competencies completed.

Measuring Student Performance

Instructors are responsible for judging student performance. Each instructor determines the method of assessment to be used for each competency: written tests, coursework, or actual performances. Dr. Monet, the principal of MAVTS, encourages the use of hands-on performance assessment whenever appropriate. OVE also has developed pencil-and-paper mastery tests linked to the occupational skills lists; these are used by some instructors to measure competence. Programs maintain individual records and issue certificates of mastery when students complete all competencies required for an occupation. In addition, high school students receive course credit based on attendance and satisfactory performance, whether or not they achieve a certificate of mastery.

EXAMPLES OF PROGRAMS

In this subsection we briefly describe two programs, one from the industrial/mechanical department and one from the cosmetology department.

Automobile Service Technology

The automobile service technology program has been in existence since the school was opened, and it is one of the most well-established programs offered at MidAmerica. It has well-maintained, up-to-date equipment, and the instructors are well trained. In fact, the program holds the ASE Master Certification from the Automotive Service Excellence organization in six areas, and four instructors also hold individual Master Certification from ASE.

The program comprises the following six elements: automotive core (shop safety, tool use and identification, engine parts identification and theory of internal combustion engines), automotive systems (electrical, electronic, brake, air conditioning, transmission, engine, suspension, and fuel), autotronics, front end and brake repair, transmissions, and air conditioning.

Program graduates have found jobs as technicians in local automobile dealerships and garages or as self-employed automobile repair technicians. Postsecondary students can receive credit toward an associate degree through a cooperative agreement with Audubon Community College.

Cosmetology

The cosmetology program began three years ago. The program operates a cosmetology salon on the school grounds that is open to residents of the community. The cosmetology curriculum includes hair styling, shampooing, permanent/finger waving, hair coloring, facials, scalp treatments, makeup, manicuring/pedicuring, and nail sculpturing. Each student learns through classroom instruction and has an opportunity to apply this knowledge to hands-on training in the cosmetology salon.

The cosmetology program follows the regulations established by the State Board of Cosmetology. To qualify to take the state board examination, students must complete 1200 hours of training. Upon completion of the training, students must pass the state examination to obtain a license to work in the field.

Cosmetology is a profession that is very individualized; a cosmetologist works independently in the development and formation of the business. Program graduates have found jobs in salons, department stores, and cosmetic firms as cosmetologists, hair stylists, nail technicians, makeup artists, or managers.

RELATIONSHIP OF MAVTS TO STATE AGENCIES AND LOCAL CONSTITUENTS

The relationships that a vocational school has with governmental agencies and local constituents (i.e., students, parents, businesses) may be characterized as an exchange of resources and information. The State Department of Education (SDE) provides vocational education funds to the school districts and establishes regulations governing the use of the funds. School districts, in turn, must comply with the regulations and must provide reports back to the state documenting compliance and program effectiveness. In this subsection, we provide a flavor of these relationships for MAVTS.

State Department of Education and Other State Agencies

The State Department of Education through its OVE provides a number of resources to regional vocational technical schools. The state also develops regulations that govern the operation of these schools.

Program Development. The Office of Vocational Education provides a set of state-level job skill lists for each of the occupations covered by vocational programs in the state. Employers representing all regions of the state participated in the development of these skill lists to ensure that they were valid reflections of the demands of the occupations. These skills lists are available to any vocational program in the state to use as a basis for developing curriculum and certifying student preparation.

OVE also develops competency-based assessment tools that correspond to the occupational skill lists. Most of these assessment materials are pencil-and-paper tests, but some are performance-based assessments. Again, these tests are available to vocational programs in the state to use as they see fit. (Initially, the tests were to be mandatory, but this requirement was dropped after significant objections were raised in the state legislature.)

Program Review and Evaluation. Programs cannot receive state funding unless they have been authorized by the Office of Vocational Education, and this authorization must be renewed every two years. Reauthorization is based on continued labor market demand and on evaluations of program quality. If OVE determines that there is a need for training in a particular occupation and that the program is qualified to meet the need, it will authorize the program to provide one or more classes of instruction in the occupational area. Each authorized class receives a lump sum annual allocation of funds. The state assumes that, on average, an authorized program will serve the equivalent of 20 students per class.

The OVE conducts biennial program reviews that are the basis for continued program authorization. The reviews focus primarily on three factors: the quality of the program, the level of demand for the occupation, and the success of the program in finding jobs in related fields for students who complete the program. The reviews also consider employer satisfaction and community support.

Data Systems. The Office of Vocational Education conducts follow-up surveys of program graduates six months and one year after they finish their program. These surveys collect information on current employment and educational status, length of employment, and the relationship between employment and training. A supplemental survey attempts to measure employer satisfaction. These data are summarized and reported to the school annually.

Coordination of Economic Development Programs. The State Department of Labor produces semi-annual labor market projections that schools can use to estimate demand for jobs. Unfortunately, the data represent statewide demand, and there is no attempt to estimate demand within particular regions. Over the years schools have become reasonably adept at making local projections based on the statewide data, and most continue to use the statewide data.

Efforts are under way to create regional planning consortia, including all agencies and contractors providing occupational preparation and training services. This would include Private Industry Councils in each JTPA service delivery area, proprietary schools, adult education programs, community colleges, regional vocational technical schools, and volunteer literacy programs. To date the regional consortium in MidAmerica's region has met only once to "get acquainted," and it is too early to tell how useful this forum will be.

Local Employers

MidAmerica has both formal and informal contacts with the local business community. Each program must have an industry advisory committee consisting of employers and representatives of trade associations and occupational groups. The advisory committees at MidAmerica have between eight and fifteen members. Committees meet at least twice a year to review curriculum, instructional equipment and materials, training approaches, and standards. Furthermore, Dr. Monet encourages programs to involve committee members in judging actual performances of students approaching program completion.

Instructors are responsible for student placement (it is one of the criteria that are used to judge instructor performance), so they try to maintain good relations with local employers. Most instructors are on a first-name basis with the owners of small businesses in the area. In addition, they have good relationships with larger employers (sometimes with staff in the personnel office but more often with managers in related occupational departments). As a result, employers, particularly small businesses, often contact instructors at MAVTS directly when they have job openings.

Instuctors also maintain direct contact with local businesses as part of their professional development. Each must spend 10 hours per term observing at local job sites. This on-the-job time helps instructors maintain their professional skills and their understanding of the needs of local employers.

Employers also are involved in MidAmerica's Industry Education Office program. Industry Education provides short-term classes to upgrade the skills of currently employed workers. These programs are developed in conjunction with local employers and employee

groups, who must help the school prepare the curriculum outline and develop the list of competencies. The number of Industry Education courses has been increasing rapidly over the past two or three years. As a result, there have been increasing contacts between the school and local businesses.

Students and Parents

The opening of MidAmerica was accompanied by great fanfare, and it generated much local interest. Initial enrollments were high. However, after several years enrollments began to decline, and the school initiated outreach and recruitment efforts aimed at high school students and adults. These efforts were successful, and they have been continued to the present day.

Most high school students learn about MidAmerica through presentations at their school, recommendations from counselors, or printed material distributed at the school. Most adults learn about the school from brochures distributed by state agencies and private counseling groups, advertisements on radio or billboards, or word of mouth from their friends. The outreach programs to high schools have been particularly successful, and there are often waiting lists for some programs. Adult enrollment is increasing as well.

MidAmerica has limited contact with parents. Despite efforts to engage parents of high school students in discussions about career planning and training, very few parents actually go beyond the front door of the school.

ACCOUNTABILITY MECHANISMS

It is easy to describe on paper the way the organizational units are supposed to work together to achieve the school's goals, but it is harder to make this happen in practice. Although Dr. Monet and the staff might not recognize it as such, MidAmerica has an effective local accountability system that helps them stay on target. All the elements of local accountability are present to some degree at MidAmerica—goals, measures, feedback loops, and change mechanisms. They are reflected in the way various decisions are made at the course, program, and institutional levels. The following material highlights specific accountability-related features at MidAmerica.

Goals

Dr. Monet talks about her "expectations" regarding the activities each organizational unit must engage in so the school as a whole can achieve its goals. These expectations are really Dr. Monet's way of operationalizing goals for each unit, beginning with the administration itself.

Administrative Goals. The school administration is expected to provide centralized individual student assessment services and training for students needing to improve basic skills. It also is expected to conduct outreach and recruitment activities in the community, making students (both full-time and short-term) aware of the opportunities the school provides. The institution is expected to support the programs in their efforts to build better links to local employers and the community, to act as channels for information and support provided by the Office of Vocational Education of the State Department of Education, and to provide adequate facilities to meet the needs of programs.

Program Goals. Dr. Monet holds each program responsible for helping MidAmerica achieve its overall goals (see above). Although the school's goals are stated in general terms, they have specific implications at the program level. Each program is responsible for the following:

- Helping students master appropriate job skills in their occupational area as delineated on the occupational competency lists;
- Providing students with improved employment skills, such as personal deportment, timeliness, effective work habits, and teamwork;
- Helping students find employment in jobs related to their training;
- Ensuring that the program articulates with advanced training options at local community colleges, when appropriate, and encouraging students to pursue these advanced alternatives;
- Providing short-term training in job-related skills for employees of area businesses; and
- Adapting instructional materials and conditions to meet the needs of students, referring students to appropriate MidAmerica support services such as the Learning Center and counselors, and helping students with special needs find employment opportunities by working with employers to develop appropriate work options.

These goals are operationalized further in specific course- and program-level objectives, including the following:

- To enroll adequate numbers of students;
- To provide support for students so they complete training;
- To help students find employment in a training-related occupation;

- To maintain the quality of the equipment and the curriculum; and
- To make the training responsive to the needs of the workplace.

In Dr. Monet's terms, programs are expected to demonstrate that they are meeting a real employment need in the region. They are expected to maintain lists of the skills and abilities needed to perform each job for which they offer training and to base their training on these occupational competencies. Occupational skill lists are expected to be updated regularly and to reflect both local employment conditions and industry standards for comparable positions. Programs are expected to align their curriculum with their skill lists, and they are expected to develop an assessment system to certify mastery of skills as students progress through courses. Finally, they are expected to help students find employment or further training in areas related to the program.

Instructors in each program are responsible for meeting the program's expectations. They are expected to provide relevant learning opportunities for all students enrolled in their courses, and they are expected to coordinate their efforts with the school's Learning Center. Instructors are expected to build positive relationships with local employers and trade associations, both for the purpose of student placement and to upgrade their own skills to keep pace with changes in the industry. Perhaps most important, they are responsible for helping students locate employment.

Goals for Students. From the institution's perspective, the most important student goals are the following:

- To learn necessary academic skills;
- To learn specific job-related occupational skills; and
- To find employment and/or additional employment-related training.

Specifically, students are expected to attend courses regularly, complete assignments in a timely manner, seek assistance in improving basic skills at the Learning Center if needed, and conduct themselves in an appropriate manner. They are expected to take responsibility for managing their education and employment preparation, monitoring their mastery of competencies, and calling the instructor's attention to their needs.

In most cases, students hold the same goals for themselves as the institution does: to improve their job-related skills in preparation for meaningful employment and careers. However, not all students share these goals. For example, some secondary students are merely exploring career options; they are not interested in immediate employment upon

completion of high school. Other secondary students are enrolled only to get course credit toward graduation; they are not motivated to learn the material in the courses nor to master occupational skills. Despite MidAmerica's efforts to educate schools and counselors about the purpose of the school and the characteristics of successful students, some schools continue to "dump" unmotivated, low-achieving students onto MAVTS without proper preparation or counseling. MidAmerica tries to accommodate the needs of students who are still exploring career options or whose goals are not immediate employment, but it does not see this as its chief mission.

Similarly, there are some adult students (though the numbers are small) who enroll at MidAmerica for very different reasons. Some adults have multiple problems: they lack basic skills, they have gone through traumatic family or personal experiences, or they have been unsuccessful in attempts at work and they need counseling and assistance in a number of ways. They hope MidAmerica will solve all their problems, but it may not offer all the services they need. Finally, a few adults are enrolled because they are required to do so to continue receiving public assistance. MidAmerica recognizes that there are differences in adult students' goals, but it places its chief emphasis on the more traditional job-oriented adult.

Industry Education Office programs are more narrowly focused on a specific set of skills. They assume that students are motivated to master skills that improve their standing at work, to qualify for new positions, or to keep abreast of changes in the workplace.

Goals for Employers. MidAmerica anticipates that employers will:

- Help the school identify training needs and establish training programs;
- Provide advice to programs regarding current job skills, working environments, and demands on workers;
- Consider program graduates as potential employees;
- Offer short-term internship or work-study opportunities for students; and
- Use the school as a resource for upgrading the skills of existing workers as the demands of the workplace change.

All employers are encouraged to participate in the program in some manner. Those who agree to serve on advisory committees are expected to meet regularly, to review the program curricula and skill lists, and to update them to match local needs and industry standards. Those who agree to help assess student performance are expected to attend review sessions and to observe, evaluate, and critique student work products and

performances. Those who are interested in hiring students who complete the program are expected to provide feedback to the program about the performance of graduates.

Employers' immediate goals are to find qualified employees to fill current openings. However, they also are concerned about the long-term needs of their industrial sector. They often look beyond the demands of one store or factory to the ongoing needs of an industry and are willing to help the school take this long-range perspective. However, employers are not always willing to put in the time in an advisory role that the school desires, nor do they always maintain a long-range perspective.

Measures

MidAmerica's accountability network functions reasonably well because measures exist that are relevant to many of the goals. Although there is not a one-to-one match between goals and measures, there are considerable data that can be used as indicators of the school's success in meeting many of its goals. There remain some school goals that are not easily assessed, as well as some measures that do not relate to a goal deemed to be important to the school. (In the next section we discuss the problems that occur in these two situations.)

Measures of Program Effectiveness. Programs collect a wide range of information related to course and program objectives in the areas of enrollment, completion, and placement.[1] Measures relating to student and employer goals are discussed in the following text. Aggregated student data provide the chief measures of program success in these areas. For example, each program can track course enrollments and completions and can generate estimates of the percentage of students attending and completing individual courses or course sequences. They also can summarize program success in terms of students' grades and can report on the percentage of students in a course who have mastered a particular skill or collection of skills.

Programs try to keep records of initial placements in training-related jobs, but they lose contact with many students (for example, those who move out of the area) and the data have always been incomplete. The chief measure of post-training activity is the OVE follow-up survey described above.

In addition to data on enrollment, completion, and placement, programs also keep track of information related to community contact and to program quality. Data are retained describing the number of inquiries each program receives from potential students and from employers looking for new employees. Programs also maintain anecdotal records of contacts

[1]The most important of the program goals are listed on page 23.

instructors have with high schools, community groups, and other social service agencies. These activities are important for recruitment, placement, and maintaining a positive image *in the community.*

The school does not collect any direct measures of instructor quality. Quality is inferred from student success, employer satisfaction, and participation in continuing education. The administration uses aggregated student performance data and employer satisfaction data as ways to judge overall program quality. The only direct measures of an instructor's behavior are reports on employer visits designed to maintain an instructor's own skills and knowledge of the workplace.

Measures of Student Progress. A variety of data is available to measure student progress, and most are directly relevant to the program's goals for students—attainment of academic and occupational skills and employment in a training-related job (or enrollment in additional training).

Each instructor is responsible for tracking student performance against the course skills list and for certifying students' mastery of individual skills. Instructors are expected to match the method of assessment to the nature of the skill. Thus, content knowledge can be assessed using paper-and-pencil tests, but procedural knowledge should be assessed through performances. Ultimately instructors are responsible for determining whether student performance on a skill is adequate. Some programs have opted for commercially developed standardized performance assessment, but most use their own tasks and examinations. Some programs use the state competency tests as "end of program" tests to confirm skill mastery. Instructors also are encouraged to involve local employers in judging large-scale student projects/activities, and this is done quite often in some programs.

Each program maintains files on individual students containing information about their progress in individual courses and in the program as a whole. The files include information about attendance, course grades, and occupational skills mastered. The Learning Center also maintains individual records on student attendance, skill attainment, and overall achievement in basic skills.

Monitoring the occupational status of students after they leave the program is a more difficult task. Instructors are asked to keep track of the initial employment of all students who complete a program, and they are able to do this for the majority of students. However, they have little or no information about those who leave before completing the program, and data on initial employment are seldom verified.

The main source of information about employment or continued training is follow-up surveys conducted by the state Office of Vocational Education. The school supplies OVE with

information about students who complete the program and OVE tracks their employment and educational status at six and twelve months after completion. The results of these surveys are shared with the school, and they are the major source of data about student employment and training. OVE surveys collect information about current employment status, relationship of training to employment, additional training received, and satisfaction with training.

Measures of Employer Participation and Satisfaction. The most direct measure of employer satisfaction is the employer follow-up survey conducted by OVE as part of its student follow-up survey efforts. Employer satisfaction also is measured indirectly in terms of continuing participation in program activities. Local industries are asked to participate on industry advisory committees, to participate in judging student performance, to provide opportunities for cooperative work while students continue their training, and to employ program graduates. Each program keeps careful records of employer contacts in all four areas as well as any other ways local businesses are involved in supporting the programs, such as donating equipment, sponsoring events, and permitting tours of the workplace.

Feedback Loops

Administrators and staff receive feedback about program performance from a variety of sources and in a variety of ways. Some feedback is formal (including the results of OVE student follow-up surveys, students' scores on competency tests, and reports of advisory committee program reviews). Some is informal, such as comments on students' abilities from businesses calling to look for prospective employees. Some feedback is internal to the system (e.g., data on student completion rates are generated as part of the ongoing administrative data system), and some comes from constituents (such as employers' reactions to course competencies and parents' opinions of the school's effectiveness). Finally, some feedback, such as course completion rates, is provided directly to program administrators, while other feedback, such as students' comments on course relevance or job competencies, comes directly to instructors and other staff. Overall, there is a rich network of information from a variety of sources that can be used for program evaluation and improvement.

Feedback Regarding Program Effectiveness. The school receives a formal report from OVE after each biennial program review. Among other things, this report reviews the need for and performance of each occupational program and contains recommendations about the continuing authorization of the program. In addition, the Board of the Southwestern Regional Training District reviews the school's performance annually as part of its oversight

responsibility and makes its opinions known through policies and directives as well as through its endorsement of the superintendent.

Similarly, MidAmerica's Advisory Council conducts a formal annual review of the school's performance. The Advisory Council reviews each program area. Industry participants on the individual occupational advisory committees have direct input into curriculum, materials, and program planning.

Informal feedback comes in a number of ways. The citizens of the district express their judgments regarding the value of the schools by voting for the members of the board and for the annual tax levy that supports the district.

Another source of feedback on program effectiveness is changes in enrollments. The school has learned that one of its strongest avenues of recruitment is referrals from students and graduates. In general, there always has been positive "word of mouth," but discontent among students is reflected quickly in lower enrollments. Students' satisfaction also is evident from their enrollment and attendance patterns. Students attend the school voluntarily, and they "vote with their feet" if they are not satisfied.

Finally, students also make their concerns known directly to their instructors. They are open about their successes and frustrations, and they provide feedback on everything from examinations to placements to specific occupational competencies.

Feedback Regarding Student Progress. Student performance on within-course measures and tests and their progress in mastering the occupational competencies provide the most direct feedback about their progress. Employers also provide information about student competence. Employers express their opinions most directly through their hiring decisions and their informal contacts with instructors when they are seeking potential new employees. In addition, employers who are involved in end-of-program student assessment make their judgments of the quality of student performance known directly to instructors and students.

The State Department of Education also provides important feedback regarding employment status based on its semi-annual follow-up surveys of students who complete the program. These reports include information on the employment and training status of program graduates, the relevance of their training to their employment, and the satisfaction of employers.

Feedback Regarding Employer Satisfaction. The state follow-up survey provides some direct evidence of employer satisfaction with student graduates. However, much more useful and immediate feedback comes from employers themselves. Employers let instructors know directly if they are dissatisfied with the capabilities of students who complete the

program. Furthermore, the industry advisory committees provide a formal channel for employer opinions. MidAmerica has learned that the willingness of local industries to continue to participate in school-related activities is a strong expression of their judgments about the value of the programs.

Change Mechanisms

There are both formal and informal mechanisms for change at the course, program, and school levels. These change processes are most easily recounted in terms of program-related decisionmaking.

School-Level Changes. There are a number of formal change mechanisms that include the "teeth" of the accountability system. One is the formal biennial review of the school and each of its programs by the Office of Vocational Education. OVE makes general recommendations for changes at the school and program levels, and in the event of a serious shortcoming, OVE can rescind authorization for a program. Loss of authorization would translate into immediate suspension of the program, a dramatic change that has never occurred at MidAmerica.

Less drastic actions are taken to improve or change programs long before they reach the stage of state decertification. The district superintendent conducts an annual internal review of each school and its programs. Schools are expected to describe program accomplishments, concerns, and strategies for improvement.

Within the school, there is an administrative council consisting of one representative from each program and one representative from each special service area that meets quarterly to discuss schoolwide administrative issues and recommend changes. However, most change occurs at the program level.

Program-Level Changes. In response to the district's annual review, the school principal requires each program to conduct its own annual review. To increase the effectiveness of these reviews, the principal appoints a staff member from another program area to serve as a member of the program review team. As a part of the annual review, each industry advisory committee conducts a formal review of competencies, curriculum, materials, and student outcomes. The advisory committee makes recommendations for the changes it feels are necessary.

Course-Level Changes. At the course level, instructors make *ad hoc* decisions about instructional strategies, course content, assessment methods, and course materials on an as-needed basis.

SUMMARY

In this section we have described a notional, but we believe representative, vocational school. Our purpose has been to portray the information-rich nature of the environment in which vocational schools operate. At the same time, we hoped to point out that much of the information on which vocational schools operate is not easily captured in the summary figures and tables that are so often a mainstay of reporting requirements. For example, to say that each industry advisory committee met twice during the past year does not capture the flavor of involvement of local industry in program evaluation. Nonetheless, it is clear to us that local accountability systems, though often more informal than formal, exist widely in vocational education.

In the next section, we discuss the practical limitations imposed on local accountability systems.

4. LIMITATIONS IN PRACTICE

INTRODUCTION

The MidAmerica example reflects a level of local accountability that is not always achieved in practice. In order to illustrate the features of the accountability model, the description of MidAmerica omitted any discussion of the shortcomings that often exist in local accountability networks. However, a discussion of local accountability is incomplete without an examination of practical limitations that can constrain accountability systems at the local level. In this section we turn our attention to these limitations.

The model diagrammed in Figure 2.1 serves as a basis for discussing the shortcomings of local accountability systems. Most of the problems we have seen in practice can be traced back to deficiencies in goals, measures, feedback loops, organizational change mechanisms, or the interactions among these components. When one of these components is missing or weak, it interferes with the effective functioning of the system.

These four elements are highly interconnected, and each one affects the others. However, the clearest way to discuss their limitations is to consider the elements individually while holding the others constant. For example, in the discussion of measures, we assume the other elements in the accountability system are in place, i.e., the school has appropriate goals, there are mechanisms for communicating between administrators and constituents, and the school has procedures for adjusting the program in light of feedback that is received. If these conditions do not exist, any deficiencies in measures are exacerbated by problems with the other components, but the deficiencies in measures remain. Examining the components individually simplifies the discussion considerably while not limiting the generality of the conclusions we draw about measures or the other elements of local accountability.

In the following paragraphs we will describe some of the common limitations that occur with each of the components of a local accountability system. Unless otherwise noted, the discussions of limitations are based on feedback from local program staff and constituents. All examples are derived directly from our site visits. As a rhetorical device, we will describe idealized components first and then analyze ways in which actual systems fail to achieve these ideals.

There are some constraints we will not address, including external pressures from the state and federal levels and unusual local conditions that may not generalize. These

influences can take many forms. For example, state policymakers often establish goals that affect all vocational programs; federal legislation currently mandates the adoption of statewide systems of measures that will be required of all local programs; state funding formulas affect local administrators' options to change local programs, particularly their ability to initiate new programs in response to local demand. In Figure 2.1, these factors are represented in the area labeled state and federal, and we treat them as exogenous elements in the local accountability model. We will discuss influences from state and federal sources briefly in our conclusions and at greater length in a subsequent report.

Finally, there are other local factors not included explicitly in the model that can affect accountability systems. These include such things as collective bargaining agreements and local political pressures. Such factors do affect administrators and instructors, particularly in their role in the change process. However, these elements are too idiosyncratic and dependent on local context to be included in a general model. To the extent that we have specific comments to make about such factors, they will be included in the discussions of the four accountability elements.

GOALS

The Role of Goals

Educational systems are accountable to many constituencies: students, parents, local businesses, and local, state, and federal agencies, and each of these constituencies has a set of implicit goals relating to vocational training and employment. Students and parents are likely to share the goals of obtaining affordable education and training that lead to employment with opportunities for lifetime advancement. Local businesses desire a qualified labor pool and a free or inexpensive source of additional training. Local governmental agencies focus on the well-being of the local economy that they often translate into low unemployment levels. State agencies desire the same thing but balanced across the state. They also may be interested in promoting an equitable sharing of education and training resources across the state. Federal agencies, while interested in providing for a growing nationwide economy, often have as an equal goal equity in the provision of services to minorities, the handicapped, and underprivileged groups.

These goals are communicated, formally and informally, to school district and program administrators, and they represent the *de facto* standards against which the performance, progress, or success of the local education and training system is judged. At the school and program level, goals arise from and are an attempt to crystallize the interests and desires of local, state, and federal constituencies. Thus, federal goals tend to be more broadly conceived

and stated than state and local goals, which in turn find expression in specific school-level goals.

In addition to the felt need that often drives school systems to develop their own formal goals, federal legislation, i.e., the Perkins Act, requires states to have explicit goals for vocational education; a clause in the act says that states must

> develop and implement a statewide system of *core standards* [emphasis added] and measures of performance for secondary and postsecondary vocational education programs.[1]

It is clear from our discussion above that goals can be arranged into a natural hierarchy, from the relatively broad:

> By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.[2]

to the very narrow:

> Accounting clerks will be able to "classify and record transactions, assets, liabilities, capital, revenue, and expenses."[3]

However, it is not always the case that only broader goals are generated at the federal level and narrower goals are generated at the local level. For example, the Perkins Act contains some relatively narrow goals, such as its requirement that states develop a system of measures and standards, and schools often adopt relatively broad goals, such as "providing opportunities for personal growth through basic vocational education and upgrading the knowledge and skills needed to keep pace with changing technology." Ideally, each higher-level goal becomes translated into an increasingly larger number of more locally specific goals as we move from national to state to local to school to individual goals. In any case, the final result should be a set of interlocking goals. In addition to translating higher-level goals into lower-level goals, additional goals of regional or local interest may be added by each succeeding lower organizational level.

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[1]SEC. 115. STATE AND LOCAL STANDARDS AND MEASURES. While we recognize that goals and standards are not necessarily interchangeable—certainly not when standards represent a *minimum* acceptable level of performance—we believe that the standards required by the act are, in effect, goals for states to strive to achieve.

[2]The National Council on Education Standards and Testing, *Raising Standards for American Education: A Report to Congress, the Secretary of Education, the National Education Goals Panel, and the American People*, Washington, D.C., January 1992.

[3]Taken from materials provided to us during a school system site visit.

The research literature on goal setting indicates that for goals to appropriately affect behavior, each goal must be seen as meaningful and realistic, each must be subscribed to by all interested parties, and each must be stated in such a way that it is possible to know if or when it has been achieved. It is also perhaps obvious but important that goals not be conflicting. With multiple organizational levels, this is often difficult to determine.

Thus, an ideal system of goals is one that is broad at the highest level and interlocks with and becomes increasingly specific at lower levels.[4] Constituents at each level must understand and support the goals of the organizational level above them and develop goals at their level that support higher-level goals. As much as possible, goals must not conflict and must be stated in a way that allows constituents to measure progress toward them or achievement of them. Finally, if a set of goals is not equally important (and they usually are not), then a set of priorities must be established, promulgated, and supported. As often as not, a major stumbling block is not that the goals themselves conflict but that limited resources do not allow all goals to receive equal support. In this case, what may be perceived as conflict among the goals is really conflict between groups that have different goal priorities.

Limitations in Goals

As we have already suggested, the major shortcomings that we find in goal systems are as follows:

- Higher-level goals that are not supported by interlocking goals at the action (local) level;
- Goals that are sufficiently vague or broad so that it would be impossible to know when or if they have been achieved;
- Failure to obtain understanding of and support for the goals from relevant constituencies; and
- Unstated or unclear priorities among goals.

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[4]In their discussion of a system of standards and assessments, the National Council on Education Standards and Testing, op. cit., provides a worthwhile scheme for organizing standards that is readily adaptable for organizing local goals. They suggest the following components: (1) an overarching statement that provides a guiding vision, (2) content standards describing knowledge, skills, etc., to be taught, (3) student performance standards, (4) school delivery standards, i.e., capacity and performance of a school, and (5) system performance standards for each higher administrative level, e.g., district, region, state, etc.

Constituents' goals are ultimately expressed in mission and goal statements at the school and program levels. To illustrate some of their shortcomings, we turn to specific examples of goal statements. Figure 4.1 shows a sample mission statement from one of the schools we visited. The formal school-level goals of this same institution are

> The Board of Education, Administration, and Staff of (name) Area Vocational-Technical School are committed to providing vocational skills training for individuals and for new and existing business and industry of the district. In order to provide this training, the school will offer programs, courses and seminars. The goal of each will be that the student gains vocational and technical entry level, upgraded, or specialized job skills.

Figure 4.1—Sample School Mission Statement

listed in Figure 4.2. We could also provide a complete list of goals at the program and course levels, but these lists are prohibitively long and too detailed to include here. At the program and course levels, goals frequently appear as statements of required occupation-specific task proficiency (e.g., for an accounting clerk "journalizing transactions into multicolumn journal") and employability skills (e.g., demonstrate self-control).

The mission statement represents the overarching goal for the school and is presumably embodied in the goals listed in Figure 4.2. The goals are indeed lofty and admirable. Unfortunately, such goal statements are often developed, occasionally revised, and then consulted only once or twice a year. For example, though we do not know how frequently these goals are reviewed, this particular set of goals came with a notation that it had been adopted in October 1973 and revised in November 1978, December 1986, and July 1990, i.e., only four times in 17 years.

Two things are obvious from the list of school goals in Figure 4.2. First, none of the goals is stated in a way that permits the school administration to know definitively whether it was met. For example, what does it mean to *assist* a student in determining individual vocational goals? And how would we know we had done it? Would a reference section in the school library on career information be sufficient? Would *every* student have to be assisted for this goal to be met? When specific levels of goal attainment are left unspecified, it is tempting to consider the goal to be an absolute or to accept any degree of success as complete success.

Second, because these goals are open-ended, it is clear that there are not sufficient resources available to meet every one of them—perhaps not even sufficient resources to address every one of them. Yet there is no clear priority of goals. Knowing how or when to

The committment of the Staff, Administration, and Board Members is centered around the needs of the students and the organizations we serve.

We are committed to:

Assisting the student in determining individual vocational goals.

Assessing the individual's basic skills and providing prescribed instruction.

Providing services which address the needs of special populations.

Maintaining a spirit of service which allows the school to respond to the needs of individual students.

Assisting local organizations in achieving their goals through customized training for their workers in the job skills necessary for their workplace.

Cooperating with all local and state agencies or groups involved in developing growth in jobs and productivity.

The basic responsibilities assigned us by the (state) Constitution to make available quality vocational and technical education to all the citizens of our district.

The continual evaluation of the effectiveness of our instructional program and to the skill level of our student product in the world of work.

A continually evolving curriculum in order to keep pace with the workplace.

The use of research and advisory committees from business, industry, the professions, and labor in developing the courses of study that will make up our school's programs.

Assisting all students enrolled at (school) in developing skills of citizenship and leadership.

Providing opportunities for personal growth through basic vocational education and upgrading the knowledge and skills needed to keep pace with changing technology.

Cooperating with all other branches of (state)'s educational system when it will provide opportunities for students or graduates or where it will provide for a better use of resources.

Figure 4.2—Sample School Goals

make trade-offs among goals is further complicated by the lack of clear statements that would set a target for each goal. Would the system reduce the assessment of basic skills to fund a different level of service to special populations?

Because of the lack of clear operational definitions in these goals, this school will find it difficult to judge progress and will be frustrated by conflicting *implicit* priorities among the staff and in the community. On the other hand, the administration will always be able to say positive things about what the school is doing (if you do not have explicit goals, it is easy to say that you are achieving them or "working toward them").

This is not to say that broad goals are inherently "bad." Clearly, they provide a general direction within which programs can function. However, to the degree that no shared understanding exists about their meanings or how to translate these meanings into actions, there may be conflict or friction in the system. Sometimes goals are left broad in an attempt to bridge underlying disagreements. But this is more useful as a negotiating tool than as an accountability vehicle.

Of course, one can err in the opposite direction as well. Highly operationalized goals can also wreak havoc on a system. As we will point out in our discussion of measures, there is often a tendency to place more faith, and hence more importance, in those things that we can easily quantify, sometimes to the decrement of more important but less easily measureable goals.

Even the best of goals can fail if they are not understood and supported by the staff and the administration. Several things can go wrong in promulgating goals throughout the system. For example, an instructor in one school that we visited was never apprised that his job included the responsibility for placing students. Two things happened as a result. First, the instructor did not know to focus effort on student placement, so placement suffered initially. Second, the instructor was given a poorer performance review than perhaps he deserved. In this case, the goal was simply not communicated properly to the person responsible for achieving it. It is often equally inappropriate to say that a given goal is everyone's responsibility—with no incentives or sanctions for individuals to work toward its achievement. Such a goal quickly becomes no one's responsibility.

Goals often succeed or fail because of the support that is provided by administrators. While we may be tempted to think of support as simply providing the means to accomplish a task, it also includes the development and maintenance of an atmosphere that rewards task performance. Consider a goal to use advisory committees to ensure that curricula remain up-to-date and relevant to community needs. A school can provide support for this goal by providing time and space for meetings to occur. If there is little incentive to hold the meetings, all the time and space in the world will not achieve the goal. The school needs to create an incentive for holding these meetings. One method might be to require that committee reports be part of an instructor's performance review package or that instructors be required to present committee reports twice a year at a department faculty meeting. The important point is that supporting a goal means providing the time and resources so that it can happen and the incentive structure that will encourage it to happen.

This leads to our final point with regard to goals: the importance of clearly stated and supported priorities among goals. In the absence of explicit schoolwide priorities, individuals

will develop and act on implicit priorities. These implicit priorities are likely to be a source of conflict in a school. For example, many vocational schools offer customized training for local employers. Unless there is a clear statement of the priorities for these activities vis-à-vis the school's regular program of classes, departments may enter into conflicts over space and instructor time. Limited time and resources and an abundance of goals demand that priorities be set. Priorities guide individuals in allocating time and resources among competing demands, as in the example above.

Goals are crucial to an accountability system. However, no matter how clearly stated or strongly supported, if a system is unable to measure progress toward achieving them, accountability will fail. In the next subsection we discuss the importance of measures and ways in which failures in the measurement system can affect local school accountability systems.

MEASURES

The Role of Measures

Although the term "measure" may seem abstract or theoretical, the concept of a measure is familiar to everyone involved in education. A measure is nothing more than a quantitative index describing the status of a phenomenon. Test scores are a common educational measure, but educational measures also include counts and tallies of outcomes (e.g., course enrollment, attendance, participation in extracurricular activities) and ratings of performance (e.g., grades, judgments about the adequacy of performance on job-related tasks). Common vocational education measures include scores on tests of occupational knowledge, tabulations of the percentage of graduates finding jobs in a particular occupational field, and proportions of occupational competencies mastered by students.

Whether we like it or not, measures play important roles in our society. They provide quantitative information about diverse phenomena from athletic performance to judgments about beauty. Such data seem to hold a tremendous fascination for people and to wield a powerful influence over our lives. Things we can quantify seem to carry greater weight than things we cannot.

This is true in vocational education as well. Although there are many valuable vocational outcomes that do not translate directly into simple measures, e.g., self-esteem, "quality of the workforce," and deportment, when people think about vocational program outcomes, they frequently think in quantifiable terms. Under the circumstances, the confusion between goals and measures alluded to in the previous subsection is

understandable. It is easy to focus on outcomes that can be counted while overlooking the importance (or lack of importance) of the things we are counting.

The fascination with and respect for data pervade the current debate about educational reform. The campaign for educational choice relies upon measures of school quality to inform parental decisionmaking. Standardized test scores are one such measure that seems to have tremendous credibility both for parents and educational policymakers. The re-authorization of the federal vocational education act mandates the establishment of measures and standards for program evaluation and improvement purposes. Both of these reform efforts are geared toward increasing accountability in education, and they would be crippled without an appropriate set of measures.

The chief role that measures play in accountability is to provide evidence of the attainment of goals, and the most important measures are those that are goal-related. Vocational programs frequently have goals for students that involve learning occupational knowledge, performing job-related skills, completing a sequence of courses leading to competency in an occupational area, and finding employment or pursuing additional schooling. Consequently, measures of occupational knowledge, job-related skills, course completion, and placement are highly relevant to vocational programs.

What characteristics should measures have if they are to be used as tools for local accountability?[5] The most important features of individual measures are consonance with goals, technical quality, and meaningfulness. In addition, the collection of measures used to describe a goal should be sufficient to portray overall status with respect to the goal. This characteristic of sets of measures can be called sufficiency. Consonancy and sufficiency are discussed in the next paragraph, followed by quality and meaningfulness.

An individual measure is consonant with the goals of a particular school or program if it provides information that is relevant to an endorsed goal of the school or program. For example, the percentage of students who complete a unit on teamwork skills is a measure that is relevant to the goal of preparing students to be effective workers in the modern workplace. As a single measure, it is consonant with this broad goal. However, completion of the teamwork unit is inadequate if it is the only measure of this goal. Many other dimensions of preparedness would need to be assessed before one could judge attainment of this goal with confidence. In this case, a set of measures is needed to assess performance with respect to this particular goal. Other constructs one might want to measure include personal management skills, problem solving ability, communication, and basic skills. A set

[5]This discussion is derived more from psychometric literature than from specific comments made by interviewees. However, all examples are based on incidents reported during our site visits.

of measures would be sufficient if it provided adequate evidence to judge attainment of the goal.

The technical quality of a measure usually is judged in terms of reliability and validity. For the purposes of this nontechnical discussion, reliability can be equated with accuracy and validity with appropriateness. A measure is reliable/accurate if it produces a score with a minimum of error. Measurement errors can come from many sources: ambiguous directions, poorly written questions, and "human errors" in compiling information or computing statistics. In tests, scores can be affected by the selection of questions or the choice of question formats. One way to determine the reliability of a test is to administer it two or more times to the same individuals. This process will seldom produce identical scores; however, if the tests are reliable, the scores will be quite similar. Large differences in scores are an indication of unreliable tests. To be useful as indicators of goal attainment, measures must be accurate.

A measure is valid/appropriate for a particular purpose if it reflects the condition it is being used to represent. In the example above, the passing rate on the teamwork unit might not be a valid indicator of workplace preparation. One person could pass the unit and be a poor employee; another could fail the unit and be an excellent employee (because he or she did not take it seriously or because the unit did not address teamwork in the workplace well enough). In reality, appropriateness/validity is not a characteristic of the measure itself but of how it is interpreted by the user. To be effective for accountability purposes, measures must be valid indicators of the status of goals they are taken to represent.

Finally, measures should be simple, clear, and direct enough to be understandable to constituents. This is what we mean by the broader term meaningful. Measures must be neither too complex nor too elaborate if they are to make sense to the average person.

Limitations of Measures

Measures are ineffective as elements of a local accountability system if they are

- Not consonant with goals;
- Of inadequate technical quality; or
- Not meaningful to constituents.

Measures that are not consonant with goals fail to provide necessary information for program improvement. Measures that are unreliable or invalid give false signals about the status of the system. Measures that are not meaningful to constituents cannot be translated

into appropriate feedback. These types of deficiencies limit the value of the measures as tools for accountability. The following examples illustrate the practical limitations on measures we have encountered in vocational programs.

Lack of Correspondence Between Measures and Goals. A set of measures fails to correspond to program goals if there are goals that are unmeasured or measured incompletely. In this situation, constituents lack objective information to judge program success. For example, if the broadly stated goal of a cosmetology program is to prepare students to be successful cosmetologists, then students' grades in cosmetology courses provide some measure of the attainment of this goal. However, grades are an incomplete measure of this goal. They do not indicate specific knowledge of key elements of cosmetology, they do not differentiate between knowledge of facts and the ability to perform the tasks associated with the job, and they do not necessarily correspond to likely success as a cosmetologist.

In comparison, it might be possible to combine a larger set of measures to judge the attainment of the cosmetology program goal. Such a set could consist of the following measures:

- A test of students' mastery of specific occupational knowledge;
- Observations of students' performance on hair care procedures;
- Measures of students' deportment and employability skills;
- Students' grades in a planned sequence of courses leading to a certificate; and
- Students' scores on state licensing examinations.

In this instance, no single measure would provide adequate data to judge the program's success in meeting its goal. However, in combination, these measures might be adequate to assess goal attainment.[6]

When goals are unmeasured or measured incompletely, people have to rely on subjective judgments about goal attainment or they have to ignore the unmeasured goals. If concerned constituents have only their own subjective impressions to use as a basis for feedback to programs, decisionmaking can more easily become politicized. Similarly, if no

[6]The collection of measures is sufficient only if it provides enough information to determine whether students are adequately prepared to be cosmetologists. This question could be answered empirically by comparing performance on the measures with performance on the job. Such a comparison could establish the predictive validity of the measures. In this case, the measures may be inadequate because they do not contain any indicator of social skills, which are likely to be highly correlated with success in this particular occupation.

data are collected to determine whether the program is meeting a goal (e.g., serving students with special needs), less attention is likely to be paid to this goal (e.g., the needs of these students).

It is also possible to include measures that do not correspond to any goals. One must be cautious that such measures do not supplant goals and become the focus of decisionmaking. There is a natural tendency to attend to whatever data are produced and, by extension, the implicit goals they instantiate. Recent emphasis on competency testing may provide a case in point; programs may attend to test scores and the actions that can be taken to raise scores while not attending to the original goal that scores were supposed to reflect, e.g., job preparation. More generally, the mere existence of data is a powerful magnet to attention, and collecting measures that do not correspond to explicit goals can raise the implicit goals embodied in those measures to a prominence they do not deserve.

Measures That Are Technically Inadequate. There are a number of ways that measures can be inadequate in terms of quality. In technical, psychometric language, we define quality in terms of reliability and validity. Measures are reliable if they are accurate and consistent. For example, in most schools the registrar's report of the percentage of students who complete the cosmetology sequence in the allowed amount of time is likely to be accurate, and, if conducted again, it would likely yield the same results. In contrast, a follow-up survey of the percentage of completers who found jobs in a field related to cosmetology may not be as trustworthy. Such surveys usually have high nonresponse rates, and those who do respond may not be representative of all program participants. As a result, the results of the survey might change if it were conducted again and the conclusions drawn from the survey are likely to be inaccurate. Because of the importance of employment as an outcome of vocational education and the fact that it is frequently assessed through a survey of some kind, it is especially important for participants in a local accountability system to be aware of these potential problems.

Measures are valid for a particular purpose if the inferences drawn from them (e.g., about the occupational knowledge of students and their preparation for work) are correct. For example, performance on the state licensing examination probably is a reasonable indication of readiness to be a cosmetologist. On the other hand, performance on a ten-item test developed by a commercial publisher in one state may or may not be an appropriate way to judge preparation for cosmetology in another state.

Rather than engage in a detailed theoretical discussion of sources of measurement error and threats to validity,[7] we will describe a few examples of measurement problems associated with technical quality that are likely to be encountered in the vocational context. This is not meant to be an exhaustive review of potential measurement problems but an illustrative presentation of the ways in which data can be deficient in practice. These examples include questions about the technical quality of

- Occupational competency testing;
- Follow-up surveys of students who complete programs; and
- Labor market demand projections.

Occupational competency testing plays an increasing role in vocational education programs. A growing number of states and organizations are developing occupational competency assessments, and a growing proportion of these assessments are expanding beyond the use of paper-and-pencil multiple-choice tests to include alternative assessment techniques such as performance-based measures and portfolios. There are many ways tests can be unreliable or invalid for local accountability purposes. As the use of tests increases, these concerns grow.

A brief review of reports about vocational testing programs currently available or under development suggested a number of potential psychometric problems, particularly with new forms of assessment. Alternative forms of tests generated repeatedly from item banks may not be comparable in difficulty, so scores may not be reliable. Short competency tests may not sample adequately from the domain of skills needed to perform a job, so results may fail to reveal significant deficiencies in students, yielding invalid impressions of competence. Measures of performance that pose hands-on tasks may have imprecise guidelines for scoring, so standards will vary from teacher to teacher. Collections of student work products in portfolios may reflect optimum performance under conditions in which outside assistance and revisions are permitted, not typical performance under joblike conditions. All these are potential threats to the reliability and/or validity of measures, and all may lead to conclusions about program performance that are incorrect.

Measurement quality also is a concern in the case of follow-up placement and employment surveys. These measures often suffer from poor data collection procedures and

[7]For such a discussion, see any comprehensive text on educational and psychological measurement, e.g., W. Mehrens and I. Lehmann, *Measurement and Evaluation in Education and Psychology*, 4th edition, Holt, Rinehart and Winston, Fort Worth, TX, 1991.

low response rates. For example, in cases where follow-up data are collected by the State Department of Education or other state agency at some distance from the program site, local programs often find it necessary to supplement state efforts with locally collected data that more closely match actual placements. This problem is lessened when state data collection is based on electronic linking of school records and employment data (e.g., unemployment insurance fund contributions), but this is done only in a few states.

More often schools are responsible for generating their own placement data but are not given adequate resources to do a thorough job. When individual programs are given the responsibility of tracking their own graduates, conditions are ripe for errors. Programs tend to interpret responses in the most positive light. For example, they are likely to trust one student's report of a second student's job status or to accept a student's comments about job intentions in lieu of data on actual job placement.

Projections of labor market demand are another area in which measures often are invalid. Many local programs receive projections from state or federal agencies to use to estimate local demand for training. This information should help programs better plan to meet the needs of local employers. However, aggregated demand projections often yield invalid estimates of local demand, and they can lead to poor program planning. For example, a statewide shortage of nurses may not translate into a local shortage. Similarly, locally generated data on employment demand are not always trustworthy. In both cases, employers have been guilty of responding in terms of the employees they would like to have under ideal conditions, not the employees they will actually hire.

A related concern has to do with the robustness of measures in high-stakes contexts. There is ample evidence that test scores and other measures can be corrupted (i.e., scores no longer reflect underlying ability) as the importance attached to the measure increases.[8] In the vocational context, this means that when the stakes attached to scores increase (for example, if it is necessary to pass a test to receive a certificate of completion in a vocational program), scores tend to rise irrespective of changes in actual knowledge. This occurs for many reasons, including familiarity with the tests after repeated use and conscious "teaching to the test."

Unfortunately, most measures are susceptible to corruption. Despite the rhetoric that people are designing a new generation of tests designed "to be taught to," many vocational competency tests are likely to be corrupted if pressures on scores grow. Fortunately, local

[8]D. Koretz, R. Linn, S. Dunbar, and L. Shepard, "The Effects of High Stakes Testing on Achievement: Preliminary Findings About Generalization Across Tests," paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April 1991.

accountability concerns do not usually create such high stakes for performance, but they can, and certainly statewide influences increase the importance of performance and place added demands on measures.

Measures also may be invalid as accountability tools when external conditions, such as unemployment rates, affect them. Program performance, particularly placement of graduates, is not solely a function of training effectiveness; it also is affected by local economic conditions. For example, placements may decline in a recession though the quality of the training and the skill of the graduates have not changed. Under these circumstances it would be incorrect to use a measure of placements to indicate attainment of specific training goals. The measure would still be a valid reflection of community demand, but it would not be a fair indication of graduate skill or instructional quality. Consequently, one must be cautious about interpreting outcome measures that are linked to local economic conditions.

Measures That Are Not Meaningful. The last criterion for effective measures is meaningfulness. There are many ways in which measures may fail the test of meaningfulness in practice. Measures are of limited value if they are unclear or confusing (e.g., they are statistically complex), if they are not available in a timely manner, or if they do not address questions that are important to constituents.

Counts, tallies, and percentages reported at the student or program level are generally well understood, but not all measures are this clear. Complicated learning-style profiles or scaled results from locally constructed occupational competency tests may be too complex or obscure to be understood easily. Some of the worst problems occur when programs make "statistical adjustments." For example, one college reported that "132%, or 632 of the 477 students scheduled to graduate from a real estate training program, went on to graduate."[9] This creates an impression that the program was phenomenally successful (or ridiculously incompetent). In fact, the school had no data at all on the number of students who found jobs in real estate. It may well have been true that this measure was reliable, but it was hardly meaningful to constituents.

Timeliness is an important attribute of measures because most school-related decisions are time-dependent. Students and parents have to make enrollment choices by a particular deadline, teachers and industry advisors have to make curriculum choices prior to

[9]This was explained as follows: The number of students scheduled to graduate in 1988–89 was defined as 80 percent of the number of students enrolled in 1987–88. Graduates were defined as the number of students listed as Completers on the NCES 2404-A Postsecondary Enrollment and Completion Report.

the start of the term, and administrators have to make hiring decisions on an annual basis. For goal attainment data to be useful, they need to be available in a timely manner.

Finally, measures should provide data that are responsive to the kinds of questions constituents are likely to ask. There may be many ways to gather information relevant to a particular goal, e.g., to serve students with special needs. Some measures will be more relevant to employers, instructors, parents, or students than others. When choices exist, schools should opt for measures that have the greatest meaning for their multiple constituencies. To be meaningful, measures must be understandable, timely, and responsive.

In conclusion, there are many ways in which measures can fail to fulfill their role in an accountability system in practice. One must not assume that because something is quantitative it is good. Nor should the reader be left with the impression that a measure is poor if it is qualitative. In both cases the important questions to ask are whether the data are consonant with goals, reliable and valid, and meaningful to constituents. These are the criteria that should be used to judge the quality of measures in a local accountability system.

FEEDBACK

The Role of Feedback

We use the term "feedback" to refer to two related but distinct processes: (1) the flow of information about school-based programs, objectives, and outcomes to constituents and school staff that forms the basis for judgment about how well the total vocational education system is working, and (2) the flow of information (usually judgments, opinions, and interpretations) *between* the various groups of constituents and the school administrators and staff (see Figure 2.1).

So defined, feedback is a continuing process that takes many forms—both formal and informal, direct and indirect. For example, course enrollment levels are one piece of information about the health of a given program. This information is published formally in an annual report, and it is also available informally to instructors and staff throughout the year based on their direct observation of classes.

The level of employer satisfaction is another indication of program performance. Satisfaction can be measured directly through surveys and conversations, or it can be inferred indirectly from employers' participation in advisory groups and employers' continued interest in hiring program graduates. In this manner, constituents' actions constitute indirect feedback about their judgments and opinions. This is true for students and parents as well as for employers.

Limitations in Feedback

Feedback includes many forms of information sharing, and it is subject to all the problems that can plague human communication. This includes insufficient information and inaccurate or insensitive communication. In the vocational education context, some feedback occurs within organizational boundaries, while other potentially more important communication with constituents must travel across organizational boundaries. This may add an additional layer of difficulty if the organizational culture and the "outside" culture have different standards or expectations regarding communication. For the purposes of this discussion, limitations in feedback will be categorized as

- Insufficient communication;
- Inaccurate communication; and
- Low signal-to-noise ratio—a high rate of communication with very little useful content.

Insufficient Communication. Information is one key to effective action. For program administrators and staff to initiate, modify, or discontinue programs rationally (see section on organizational change mechanisms), they must have valid, reliable, and meaningful program information to guide them. For example, to the degree that instructors are isolated from local employers and do not receive feedback about employers' hiring priorities, instructors will be unable to adjust program content to employers' changing needs. Similarly, to the degree that school administrators do not receive job placement information on program graduates, their decisions regarding program expansion or contraction will suffer. To the degree that community members lack information to judge the value of their local vocational education and training system, they will be unable to shape it to their needs. They may be less willing to provide the fiscal support it needs as a result.

Communication may be insufficient for several reasons. People tend to err on the side of sharing too little information rather than too much. Those who have information to communicate often feel that they have communicated more than those receiving information feel they have been given. One of the most difficult aspects of communication is judging the appropriate amount of information to share.

Second, a person may limit the amount of information he or she communicates publicly for political reasons since the control of information contributes to the exercise of power. Those who possess information have an advantage over those who do not. Sometimes the conscious restriction of information is quite subtle. For example, business

representatives who join together in program advisory committees are by their nature local competitors—e.g., beauty salon operators in the same city. This can generate considerable pressure on committee members to be less than entirely forthcoming with information. In one location, an advisory committee felt the need to have a formal written agreement concerning the use of information obtained through committee deliberations. The members believed that this agreement allowed a much freer exchange of information.

Inadequate communication also can arise as the result of ineffective organizational arrangements. For example, one community college we visited had a centralized placement office that carried out all of the placement support functions for program graduates. While this specialization appeared to be an efficient use of resources, it created an unanticipated buffer between instructors and local employers. Because instructors were not responsible for job placement, they failed to receive the natural flow of communication about employers' needs and program content that occurs during the placement process.

Lack of Accuracy of Communication. Information can be communicated inaccurately or insensitively for many reasons. First, human communication is susceptible to many forms of bias, both intentional and unintentional. Intentional bias occurs when someone purposely distorts reality. Unintentional bias is more difficult to detect and may be far more common. A local employer who is especially happy or unhappy with the quality of a program graduate can provide unintentionally biased information. If the employer is persuasive, a single strategically placed remark can have a dramatic effect on others' perceptions of the program—regardless of whether the remark truly reflects the overall quality of program graduates. The employer may have no intention other than to report his or her experience with a single graduate, yet a positive or negative anecdote can have much greater impact than a report filled with statistics.

Second, information can be distorted to serve a particular agenda. Individuals can put their own "spin" on information by highlighting or downplaying either the positive or negative aspect of the information. For example, in one location we visited, a child care worker program was being discontinued. Although job placement rates were high, the program served primarily women, and the graduates were earning a relatively low wage. The administration decided to dismantle the program because, in their opinion, it perpetuated women in low-paying jobs. Clearly wage levels and placement rates provided two different perspectives on the success of the program. Administrators decided to emphasize one piece of information over the other; students might have put a very different spin on the information. We do not cite this as an example of poor or good judgment on the

part of these administrators; rather it shows how one piece of information may be emphasized unwarrantedly over another.

Low Signal-to-Noise Ratio. In some instances, there may appear to be a substantial flow of communication, yet very little useful information is being exchanged. The classic example of this is a political speech, but we do not find large amounts of noise and small amounts of content only in political rhetoric. Vast amounts of noise can masquerade as information in many other settings. In vocational education, this may take the form of undigested, unsummarized, unsynthesized, or unanalyzed statistical information. For example, schools may publish page after page of course enrollment figures. If this information is not summarized or if additional contextual information is not present (such as trends in enrollment over time or local employment figures), the information is effectively noise that the reader must sort through. This is not to say that statistical reports are worthless; rather that it can be difficult to find the key information amid the noise.

Why does this happen? Often individuals feel that all information that has been collected should be distributed. Furthermore, it takes an experienced data analyst to find appropriate ways to summarize raw data without biasing the information. One method that can be used to ameliorate this problem is to provide summary information in the body of a report or presentation and to include the raw data in an appendix. Providing only the summary or only the raw data is less likely to be satisfactory.

Communications with low signal-to-noise ratios have predictable effects. First, individuals simply cease to pay attention to the information they are given. Decisions continue to be made but without the benefit of useful information. Second, increased time is devoted to sorting through the data to find and interpret the useful information that is contained amid the noise. Third, the noise is confused with useful information, leading to inappropriate conclusions and actions.

To summarize, feedback represents the flow of information conveyed by the measures *to* administrators, program staff, and school system constituents, and the flow of information *between* administrators, staff, and constituents. Problems in feedback result in inaccuracies or distortion of information that can lead to poor decisionmaking.

ORGANIZATIONAL CHANGE MECHANISMS

The Role of Organizational Change Mechanisms

Studies of organizational behavior have documented the tendency for organizations to persist in the same actions rather than to change.[10] Persistence occurs, in part, because

[10]J. G. March and H. A. Simon, *Organizations*, John Wiley & Sons, New York, 1964.

there are costs (both real and psychological) associated with change. Schools demonstrate the same inertia and the same tendency to maintain the status quo rather than change. The "loosely coupled" nature of education, in which hierarchical authority is lessened, may make schools somewhat more responsive to environmental pressures than other organizations.[11] However, this same "decoupling" may reduce the likelihood of large-scale change while increasing the ease with which individual classroom instruction responds to pressures for change.[12]

Our observations of vocational education programs are consistent with these viewpoints. We found that large programmatic changes were infrequent. For example, it was rare for a school to initiate a new program or terminate an old one. On the other hand, change was common within specific occupational programs. Small modifications to courses, curriculum, equipment, student requirements, and assessment methods occurred regularly.

In discussing organizational change mechanisms, we include both types of change, those affecting programs as a whole and those affecting elements within programs or services. At the school level, the director, principal, or executive committee is the chief agent of change; at the program level, the program coordinator, department head, or curriculum committee acts in this role. In small programs (which were quite common in the schools we visited) there may be only one or two instructors who are responsible for curriculum change. In abstract terms the role of organizational change in the accountability network is the same in all these situations.

When a local accountability system is functioning effectively, change is fostered because constituents have power to reward or sanction the behavior of the institution. Not only can they make their opinions known regarding the success of the institution, they can act on their beliefs. Students can leave programs and share negative reviews with peers if they do not believe the school is achieving the goals that are most important to them. Likewise, businesses can withhold their participation—on industry advisory committees and as employers of program graduates—if they do not believe the school is achieving goals that are important to them. Similarly, instructors, parents, and community members have power as voters, board members, participants, and advisors to create incentives for achieving appropriate goals.

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[11]J. G. March and J. P. Olsen, *Ambiguity and Choice in Organizations*, Universitetsforlaget, Bergen, 1976.

[12]J. W. Meyer and B. Rowan, "The Structure of Educational Organizations," in J. W. Meyer and W. R. Scott (eds.), *Organizational Environments*, Sage, Beverly Hills, 1983.

Administrators have options for responding to constituent feedback (as well as their own evaluations of program performance), and they play the key role in change. In our model they are the recipients of information on system performance (measures) and of feedback from constituents on their interpretation of measures and the degree to which the program is meeting their needs. Administrators use these inputs to make decisions about continuation or modification of programs.

Organizational change need not occur through a regular, formal, systematic process for a local accountability system to function. That organizations tend to change in evolutionary and episodic ways does not detract from the accountability model we described. Measures of program performance and feedback from constituents influence program decisionmakers, although it may take time for these effects to be translated into action.

What are the characteristics of an ideal organizational change mechanism? Three elements seem crucial to us. First, the organization must be responsive. When data suggest that goals are not being met or when feedback suggests that constituents are dissatisfied with performance, actions need to be taken to understand and improve the situation. The key word here is improvement. It is not enough to mollify critics, adapt measures, or discount results. What is required is movement toward a more effective way of doing things.

The second characteristic of an effective change mechanism is that it must be forward looking. Schools must be willing to look beyond short-term satisfaction to intermediate and long-term goals. Business cycles can affect short-term demand for employees, so schools may need to ignore short-term fluctuations in placements to be responsive to long-term industry demands. Schools must avoid eliminating programs that may be viable in the long run.

Finally, organizations must be fair. They must respond to the needs of all constituents and not give undue weight to feedback from some groups over others. The adage "the squeaky wheel gets the oil" is often true in educational settings. An effective change mechanism is one that balances the needs of constituents, respecting the desires of large and significant groups without dismissing the wishes of small groups.

Limitations in Organizational Change Mechanisms

Organizational change and reform can falter for many reasons. In our visits to vocational schools we saw examples of decisionmaking and program reform procedures that were far from ideal. Among the shortcomings were the following:

- Regulations that limit options for change;
- Insufficient resources;

- Overattention to the needs of one constituency (e.g., employer groups);
- Giving priority to short-term demands over long-term trends;
- Difficulties balancing competing goals and principles (e.g., equity versus placement);
- Lack of formal procedures for change; and
- Ineffective leadership for reform.

Often options for local change are constrained by state or federal regulations and funding guidelines. In one state, new program funding was available only in occupational areas where state labor market demand projections indicated growth. However, local school administrators did not believe these projections accurately predicted local demand. Nevertheless, schools could not receive state funds for new programs unless the programs appeared on the state's approved list. Other kinds of regulations can limit administrators' options for reform. One vocational school had a two- to three-year waiting list for enrollment into its nursing program, but it was not allowed to start additional classes because of limits placed on it by the State Board of Nursing.

One of the most common restrictions faced by all educational programs, not just vocational education, is limited funding. In the vocational context, resource constraints reduce schools' ability to respond to changes in demand. In many states, funds for vocational educational programs have been "capped," and schools receive no additional resources or only partial funding when they add students or programs.

Another factor that can reduce the effectiveness of change procedures is overattention to feedback from industry. As an example, bowling alley operators in one community made a strong case that training was needed to prepare mechanics to repair automatic pin-setting machines. The school did its best to conduct an objective survey of demand, which lent some support to industry claims. The industry advisory group was adamant that the program was needed, and they were willing to raise funds for the capital expenditures necessary to prepare the facilities. Despite its reservations, the school accepted the group's help to prepare the facilities and develop the curriculum.

The program was offered, but enrollments were insufficient to sustain it. After some investigation the school learned that the bowling alley operators themselves were withholding information from employees who might enroll. The owners were unwilling to refer employees because they did not want to pay the higher wages that trained mechanics could command. The results of the employer survey were misleading because owners had indicated "the type of employees they wanted, but not the type of employees they were willing to hire." In retrospect, the school believed it was persuaded by owners' desires

without an adequate assessment of owners' commitments. The school complied with the wishes of the advisory committee, partially out of respect for the employers. Unfortunately, the space devoted to the bowling machine repair program could have been used more effectively for other programs.

A related problem occurs when schools attend to short-term demand without consideration of long-term needs. For example, one community college created a program to train pulmonary therapists based on employer surveys that projected a strong immediate need. However, the needs analysis did not estimate turnover and continuing demand in the field. The school soon found itself with a program that could no longer place graduates because all the positions had been filled.

Managing change can be difficult when administrators have to balance competing demands or competing principles. For example, one area vocational school eliminated its child care worker program despite continuing demand because the program was training women for an occupation the school identified as a low-paid, traditionally female, and "dead-end job." Administrators judged this training program to be an inappropriate use of resources that might better serve to develop more promising training opportunities.[13] In this case the school gave priority to principles over demand, to broader career-oriented goals over short-term employment goals.

Finally, although it is an extreme case, some institutions act as if they have no mechanism for change. While effective vocational schools regularly update and redesign facilities to meet the changing training needs of their local communities, other schools seem to have little or no capacity for self-improvement. For example, one high school in an urban area provided vocational programs as part of a larger regional training consortium. The school itself did little to broaden the range of courses allocated to it or to improve the quality of its classes or facilities. One reason for this seeming indifference was that vocational education had little prestige at the school compared to college preparatory academic education. Another reason was that the school had little power to affect the allocation of vocational courses. Either through neglect, bureaucratic inflexibility, or the absence of leadership, the school made almost no efforts to improve vocational programs or facilities. Although this example was striking, we have no reason to believe it is typical of vocational programs.

Overall, there are a number of ways in which practical constraints inhibit organizational change mechanisms. Even when goals are well articulated, measures well

[13]They had not yet identified those opportunities and developed appropriate training programs at the time of our visit.

defined, and feedback from constituents prevalent, administrators may be ineffective in translating these elements into action. Administrators are influenced by politics and by external factors beyond their control. They are limited by their own capacities as leaders, and their actions can be affected by weaknesses in their change strategies. This includes failure to be responsive, overattention to short-term solutions, and susceptibility to pressures from vocal groups.

SUMMARY

Theoretical models can be useful tools for understanding social phenomena, and the model we proposed in Figure 2.1 is helpful for describing accountability at the local level. However, theoretical models of social programs have limits—they describe conditions in ideal terms that are not necessarily implemented in specific situations. In this section we presented a number of practical limitations drawn primarily from our study sites that can reduce the applicability of our model and the effectiveness of local accountability systems. These limitations can be described as deficiencies in the components of the model—goals, measures, feedback loops, and change mechanisms—and the interactions among them. Greater familiarity with the functions of accountability in practice will improve our model and its usefulness as a policy tool.

5. SUMMARY AND CONCLUSIONS

In this study we sought to examine accountability relationships in vocational education at the local level as a complement to earlier NCRVE-sponsored research on accountability at the federal level.[1] Our purposes were to investigate the nature of local accountability in vocational education and to examine the effectiveness of such local accountability systems.

To this end we reviewed the literature on accountability in vocational education, and we conducted extensive interviews with constituents of vocational programs in five states. Based on these data we developed a model of accountability at the local level and a collection of anecdotes about limitations of the model in practice. Both the model and the practical limitations should be useful in future research on accountability and on the effects of changes in federal and state policy regarding vocational education.

For example, as a result of this study we believe that accountability systems are impaired if the components—goals, measures, feedback, and change mechanisms—are out of balance. That is, if they differ dramatically in terms of emphasis, credibility, sophistication, and efficacy. Recent federal efforts to promote accountability in vocational education have focused primarily on measurement and, to a somewhat lesser extent, on change. Much less attention has been given to goals and goal setting. One consequence of this emphasis on measurement is that measures may begin to supplant goal setting rather than having goals drive the choice of measures. To what extent is this occurring? What are the goals that are implicit in the measures being adopted, and how do they differ from the goals constituents hold for vocational education? These are empirical questions that might not be asked unless one has a systemic perspective on accountability. The general model of local accountability described in this study provides such a perspective, and it can help researchers generate appropriate questions.

We draw four main conclusions from this study:

- There are local accountability systems operating in vocational education programs that are distinct from state- or federally imposed standards and requirements for program review.

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[1]Hill, Harvey, and Praskac, 1992.

- These systems can be described reasonably well by a model with four components: goals, measures of goal attainment, feedback from constituents, and organizational change mechanisms.
- The quality of these components and the relationships between them account for much of the variance in local accountability.
- Practical constraints exist to limit the effectiveness of these systems.

Understanding these limitations can lead to prescriptions for improving local accountability and to better understanding of the impact of state and federal policy.

To elaborate on the first conclusion, we found it makes sense to talk about local accountability in vocational education as distinct from federally mandated accountability. This, in itself, is an important result, for many would argue that one of the problems facing general education is that schools are not accountable to students and parents. In vocational education the situation is different. The nature of the educational enterprise is such that one often finds meaningful local goals, clear signals of goal attainment, and additional local constituents with a vested interest in outcomes. All these create a framework for local accountability, and although this framework often is informal, it is systematic.

Second, a simple model captures the important elements of this accountability system. Every school system we visited had formal goals. Although goals may differ for different stakeholders, if they are shared, they can be the basis for accountability. Next, there must be ways to measure and publicly communicate about attainment of goals. Most measures are defined in terms of outcomes, e.g., program completion, skills attained, and placements achieved. Feedback is the third component. Measures must be communicated to program staff and constituents, and the opinions and interpretations of constituents and staff must be communicated back to program administrators in some form—either directly through discussions or indirectly through actions. Finally, the system must have some mechanism for change in response to feedback. In most cases the responsibility falls on the shoulders of administrators, who may be more or less effective at translating feedback into program improvement.

Third, the quality of these four components affects the capacity of the local accountability system to produce program improvement. Poorly stated or unrecognized goals reduce the focus of administrators. Measures that are not consonant with goals limit judgment about program effectiveness. Lack of feedback from constituents fails to portray adequately their needs. Ineffective change agents fail to use the information provided by the

system to make necessary changes. Limits in these components interfere with the effectiveness of the overall accountability system.

Fourth, it is possible to identify a number of the most common practical constraints that limit the effectiveness of goals, measures, feedback, and change mechanisms. For example, goals are often stated in ways that make it impossible to know if they have been achieved. Such goals provide little basis for judging progress while permitting schools to draw positive conclusions about their effectiveness. Even when schools operationalize goals well, they seldom assign priorities that would help guide resource allocation decisions. Similarly, when measures are lacking, people rely on subjective judgments about goal attainment, which can overly politicize the decisionmaking process. The use of measures of unknown or inadequate technical quality may lead to unwise program planning and reform.

Feedback can be reduced or distorted in ways that constrain its effectiveness. For example, actions that are taken to enhance services (providing job placement specialists) can have the opposite effect by limiting communication between instructors and employers, a critical source of data on student mastery and program effectiveness. Focusing on high job placement rates can mask the fact that the graduates are earning poor wages. Similarly, educational change mechanisms can be seized by well-meaning administrators with strong visions, whose actions may or may not further the needs of their constituents.

The identification of common limitations such as these in local accountability systems has at least two potential benefits: We can begin to identify criteria to use to evaluate local accountability systems. In addition, we also can develop prescriptions for improving local accountability.

Furthermore, the process creates a vocabulary for examining the effects of state and federal programs on local systems. We saw ample evidence of the influence of the larger state and federal context on local accountability relationships. In some cases these pressures enhance the accountability system. In other cases they are at odds with the natural accountability relationships that exist at the local level. Our description of the local accountability systems serves as a basis for examining the effects of federal and state initiatives in this area. Exploring this topic is the subject of a subsequent report.